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Ages of Engagement in Risk Taking and Self-Harm: An Investigation of the Dual Systems Model of Adolescent Risk Taking

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AGES OF ENGAGEMENT IN RISK TAKING AND SELF-HARM: AN INVESTIGATION OF THE DUAL SYSTEMS MODEL OF ADOLESCENT RISK TAKING

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AGES OF ENGAGEMENT IN RISK TAKING AND SELF-HARM: AN INVESTIGATION OF THE DUAL SYSTEMS MODEL OF ADOLESCENT RISK TAKING

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I dedicate this specialist project to my family. Dad, Mom, Taylor, and Jason, I could not have accomplished any of my goals without your constant love and support.

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Risk taking (RT) and self-harm (SH) are clinically, conceptually, and empirically related, yet separate constructs, which occur most frequently during adolescence. The current study utilized retrospective reports of college students to determine reported ages of engagement in RT and SH behaviors. Reported ages were compared with predictions for ages of high frequency engagement in RT based on the Dual Systems Model of Adolescent Risk Taking (DSMART; Steinberg, 2010). The sample consisted of 228 college students, ranging in age from 18 to 48 years (mean 22.8), who completed a survey of commonly investigated RT (12 items) and SH (18 items) behaviors. A positive correlation between the RT and SH scales supported a relationship between RT and SH, as predicted. The mean ages of engagement reported for both RT and SH behaviors were significantly higher than the ages predicted by the DSMART. However, the mean ages of engagement varied significantly by behavior grouping (RT, SH), and by subgroups within each behavior group. The NSSI subgroup of SH and the Situational subgroup of RT were noted to have the lowest mean age of high frequency engagement at the subgroup and behavior item level. A relationship between RT and SH was supported and information regarding ages of engagement in RT relative to ages of engagement in SH in the sample provided a further basis for understanding the emergence of these behaviors.

The findings are discussed with regard to the DSMART and the relationship between RT and SH behaviors.

Introduction

Self-destructive behavior (SDB) is comprised of risk taking (RT) and self-harm (SH) behaviors. RT and SH behaviors are clinically, empirically, and conceptually related constructs that have the potential to result in dangerous outcomes for adolescents (Vrouva, Fonagy, Fearon, & Roussow, 2010). Due to the potential for harm, RT and SH are behaviors of significant concern. Individual behaviors within each category impact a large number of adolescent individuals. Moreover, RT and SH frequently co-occur (Brausch, Decker, & Hadley, 2011; Walsh, 2012) and the importance of investigating the two simultaneously has been previously suggested by researchers (Vrouva et al., 2010).

RT occurs in higher frequency during adolescence as compared to adulthood. It is acknowledged by a large number of researchers that engagement in RT behaviors tends to emerge, increase, and peak between the ages of 12 and 18 and decline thereafter (Boyer, 2006). Steinberg (2010) proposes the Dual Systems Model of Adolescent Risk Taking (DSMART) to account for the higher engagement in RT behaviors during adolescence. This model purports that different patterns of brain development, for the incentive processing and the cognitive control systems, are primarily responsible. Due to the different patterns in the development of these systems, Steinberg's DSMART predicts a higher frequency of engagement in RT between the ages of 12 and 15, as compared to any other ages. Being that RT and SH are related, it is suggested that engagement in either or both behaviors will show comparable patterns of high frequency.

The actual ages of engagement in RT behaviors have not been investigated relative to the predictions for high engagement from the DSMART. It is unknown whether engagement in RT behaviors is more or less frequent during the ages the

DSMART suggests. Additionally, the actual ages of engagement in SH behaviors have not been examined relative to predicted ages of high engagement from the DSMART or in comparison to RT behaviors. Limited evidence supports that the prevalence of three SH behaviors, non-suicidal self-injury (NSSI), suicide attempts, and disordered eating, are highest during adolescence. Social and emotional processing and regulation is linked to the reward-seeking system described in the DSMART and to the function of SH behaviors. Therefore, it is plausible that SH may follow a similar pattern as that of RT. The current study was aimed at gaining additional information on the age of high frequency engagement in RT and SH behaviors. Specifically, what RT and SH behaviors are being reported and the ages at which they occur in the highest frequency, in comparison with the ages predicted by Steinberg's DSMART.

Literature Review

Self-Destructive Behavior

Self-destructive behavior (SDB) encompasses a wide variety of behaviors that may cause an individual harm. SDBs are inclusive of both risk taking (RT) and self-harm (SH) behaviors. RT is commonly conceptualized as engagement in behaviors with the likelihood of undesirable results (Boyer, 2006). RT behaviors commonly investigated include stealing, drinking and driving, speeding, gang participation, and tobacco use. While RT is generally defined as behaviors that may result in undesirable outcomes, SH includes behaviors that result in varying degrees of personal physical harm (Gratz & Chapman, 2009; Lofthouse, Muehlenkamp, & Adler 2009; Walsh, 2012). Vrouva et al. (2010) define SH broadly as a culturally unacceptable behavior that involves direct and deliberate infliction of physical harm to one's body, regardless of the presence of suicidal intent and in the absence of a pervasive developmental disorder. This definition of SH is supported by other researchers (e.g., Simeon & Hollander, 2001; Walsh, 2012; Yates, 2004). SH incorporates a large number of behaviors that range from engagement in negative or self-punishing thoughts about one's self to suicide attempts. RT and SH are most frequently noted during adolescence, although for some individuals, these behaviors persist across the lifespan (Boyer, 2006; Nock, Teper, & Hollander, 2007; Yates, 2004).

SDB is a term to describe behaviors inclusive of RT and SH. However, SDB can be further differentiated or classified by the directness of the behavior (i.e., direct, indirect) and lethality (i.e., high, moderate, low). These classification categories were first described by Pattison and Kahan (1983) and later modified by Walsh (2012). Direct SDB refers to behaviors that have the opportunity to cause immediate damage to the

individual (e.g., cutting one's self). Indirect SDB refers to behaviors in which the damage is accumulative rather than immediate (e.g., tobacco use, disordered eating). High lethality SDBs are likely to cause death (e.g., suicide attempts, major self-injury), whereas moderate lethality SDBs are less likely to cause death, and low lethality SDBs cause harm, but are not likely to cause death (e.g., non-suicidal self-injury [NSSI], remaining in an emotionally abusive relationship). Thus, RT and SH can be placed on both a directness continuum and a lethality continuum. However, RT is considered to be only an indirect form of SDB, whereas SH can be indirect (e.g., disordered eating, chronic substance abuse) or direct (e.g., suicide attempts, NSSI).

As summarized by Walsh (2012), SH also covers a wide range of behaviors that include both indirect and direct SDB which vary by lethality (i.e., high, moderate, low). SH includes behaviors which are physical (e.g., purposely starving or overeating, cutting) and psychological (e.g., engaging in negative thoughts about self). The prevalence of SH can be inferred from the research on the various behaviors within this category, including NSSI and suicide attempts. SH figures are frequently debated as the prevalence varies across community and clinical populations for each SH behavior (Lofthouse et al., 2009). In studies examining NSSI, rates of between 15 and 45% are reported within community high school samples (Muehlenkamp & Gutierrez, 2004; 2007; Rodham & Hawton, 2009). Within adolescent psychiatric inpatient populations, rates of NSSI are higher, ranging between 30 and 40% (Jacobson, Muehlenkamp, Miller, & Turner, 2008). Common associated features of NSSI include difficulty dealing with emotions, body dissatisfaction, borderline personality disorder (BPD), substance abuse, depression, post-traumatic stress disorder (PTSD), eating disorders, anxiety disorders, and dissociative

disorders as well as emotional dysregulation, self-derogation, and childhood environment and adversities (Gratz & Chapman, 2009; Lofthouse et al., 2009).

Although NSSI refers specifically to behaviors engaged in solely as a coping mechanism without suicidal intent, studies have found NSSI to be a risk factor for suicide and suicide ideation (Brausch & Muehlenkamp, 2007; Nock, 2009). The majority of individuals who engage in NSSI do not make a suicide attempt. However, studies have found in those individuals who do engage in NSSI, 70% of inpatient populations and 50% of nonclinical populations have reported at least one suicide attempt (Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006). In the United States, the suicide rate is approximately 11.5 per 100,000 (American Association of Suicidality, 2008). In the Youth Risk Behavior Surveillance (YRBS; Centers for Disease Control and Prevention [CDC], 2012; N = 15,425), 19.3% of adolescents in the United States reported seriously considering suicide, 12.8% reported making a plan on how he or she would attempt suicide, and 7.8% reported attempted suicide within 12 months prior to completing the survey with 2.4% reporting treatment by a doctor or nurse. In 2006, suicide was one of the leading causes of death for adolescents between the ages of 15 and 24 as 4,189 completed suicides (Heron et al, 2009). Further, the prevalence of having attempted suicide increased from 2009 (6.3%) to 2011 (7.8%; CDC, 2012).

RT behaviors are an indirect form of SDB in that any harm that may result is not the intent of the behavior. Harmful results can be immediate in the form of high risk stunts or accumulative in the form of chronic behaviors such as drinking or smoking. As summarized by Walsh (2012), RT behaviors are conceptualized as falling into one of three categories: situational, physical, or sexual. Situational RT refers to engagement in

behaviors that in and of themselves may not be dangerous, but within certain contexts have the potential to be dangerous (e.g., taking a walk at night in a dangerous area). Physical RT involves participation in behaviors that involve physical risk (e.g., walking in high speed traffic; Walsh, 2012). Sexual RT is comprised of a wide range of sexual activities including promiscuity and engagement in sexual activities while intoxicated. The prevalence of engagement in RT behaviors in 2011 within the United States is noted in the YRBS (CDC, 2012). Within the 30 days prior to completing the survey, 8.2% of adolescents in the United States drove a car after drinking alcohol, 16.6% carried a weapon, 5.1% carried a gun, and 7.7% used smokeless tobacco. Smoking daily for a 30 day period was noted in 10.2% of adolescents. Over the course of their life, 44.7% of the adolescents had tried cigarette smoking, 70.8% drank alcohol, 21.9% engaged in binge drinking (i.e., five or more drinks in one sitting), 39.9% used marijuana, and 6.8% used cocaine. Sexual intercourse with four or more persons was reported by 15.3% of the sample. A high frequency of lack of sexual precautions was noted for the sample with 12.9% reporting no use of any method to prevent pregnancy during their last sexual intercourse. Only 18% of the currently sexually active adolescents (33.7% of sample), reported using birth control pills and 5% reported the use of other forms of birth control. The YRBS also reports on behaviors that are considered as not taking appropriate cautions during participation in activities that have the potential to result in harm (RT). Of the 70% of adolescents who had ridden a bicycle, 87.5% reported rarely or never wearing a bicycle helmet. Riding with a driver who had been drinking was reported by 24.1% of the adolescents sampled. Additionally, studies outside the YRBS have found

engagement in self-asphyxial RT behavior (known as the choking game), to be between 5.7 and 6.6% (Brausch et al., 2011).

In summary, the category of SDB consists of both RT and SH behaviors that vary in directness and lethality of the behavior. Thus, the categories of RT and SH are comprised of a wide range of behaviors. Further, there is a significant frequency of engagement in RT and SH behaviors during the adolescent period of development and there is a significant potential for harm for adolescents from engagement in SDB.

Relationship between RT and SH

RT and SH are conceptually, clinically, and empirically related. Both RT and SH appear to be influenced by peers (Chein, Albert, O'Brien, Uckert, & Steinberg, 2010; Steinberg, 2008). Both frequently appear in and are most common during adolescence and decline thereafter (Boyer, 2006; Gratz & Chapman, 2009; Lofthouse et al., 2009; Nock et al., 2007; O'Loughlin & Sherwood, 2005; Yates, 2004). Both are often related to increased arousal (Gratz, 2003; Howard, Yan, Ling, & Min, 2002). RT and SH derive from a young person's wish to momentarily experience something that is perceived as desirable, regardless of consequences (Vrouva et al., 2010). Both may provide a benefit to the individual, such as the addition of positive feelings or the removal of negative feelings (Gratz & Chapman, 2009; Lofthouse et al., 2009; Walsh, 2012). RT and SH may occur in an impulsive state of mind (Gratz & Chapman, 2009; Steinberg, 2007; Webb, 2002), where cognitive control is weak and stress or emotional reactivity is high. Both SH and RT not only affect the individual, but the surrounding family and friends (Gratz & Chapman, 2009).

There is some evidence which notes high levels of SH accompany the presence of high levels of RT. For example, one form of SH, NSSI, is associated with higher engagement in RT and lower perception of risk for some RT behaviors (Jones & Hakman, 2011). Brausch et al. (2011) found that participants who engage in NSSI and self-asphyxial RT behavior (known as the choking game), report higher levels of other SH and RT behaviors (e.g., suicide ideation and attempts, unhealthy eating and exercise, substance abuse) in comparison to adolescents who engaged in no NSSI, only engage in NSSI (SH), and only engage in self-asphyxial (RT). Walsh (2012) reported on an unpublished study by Walsh and Frost (2005) which found a high incidence of multiple RT behaviors in a self-injuring population. In a sample of 34 individuals who self-injure, 94% reported physical RT and 85% reported situational RT.

SDBs also co-occur with many clinical disorders. Adolescents with psychiatric disorders often engage in several SDB, including both RT and SH behaviors (Lescano et al., 2007). In addition, SH and RT are distinguishing characteristics of BPD in the DSM-IV (American Psychiatric Association, 2000). Lofthouse et al. (2009) conducted a review of 16 studies of NSSI (SH) and co-occurring psychiatric conditions in inpatient (six studies), outpatient (three studies), and community (seven studies) populations. The review revealed internalizing and externalizing behaviors across all three populations. In addition, a multitude of DSM-III and DSM-IV diagnoses are reported within the inpatient sample including externalizing disorders, conduct disorder, oppositional defiant disorder, PTSD, and generalized anxiety disorder. Within inpatient samples, NSSI most frequently co-occurred with depression, followed by suicidal behavior, anxiety, and substance abuse, and finally, problems with eating and hostility and anger. Within community

samples, NSSI most frequently co-occured with suicidal behavior, followed by depression and substance abuse, hostility and anger, and finally, anxiety. The review also indicated a number of RT behaviors, including substance abuse and disordered eating, across populations. RT behaviors have also been linked with depression, substance abuse, and conduct disorders (Vrouva et al., 2010).

Further evidence to support the relationship between RT and SH can be found in the work of Vrouva et al. (2010) who developed the Risk Taking and Self-Harm Inventory for Adolescents (RTSHIA), a measure to assess RT and SH behaviors simultaneously. The RTSHIA is designed to assess individuals between the ages of 11 and 19 years within clinical and community settings. Initial studies conducted on the psychometric properties of the inventory supports a relationship as they found a significant correlation (r = .44) between RT and SH in a community sample and clinical sample (N = 722; 11.6 to 18.7 years). Further, a SH subgroup (n = 53), evidenced higher scores on the RT and the SH scales when compared to the community sample matched on age and gender. The RTSHIA also evidenced a two-factor structure, which supports that RT and SH are separate, but related constructs. Correlations found by Vrouva et al. (2010) between the RT and SH scales and measures of psychopathology evidenced a significant relationship or overlap. However, SH was more strongly correlated with internalizing behaviors, whereas RT was more strongly correlated with externalizing behaviors.

RT and SH also evidence differences. RT is often seen as typical adolescent behavior. SH is often viewed as abnormal, although some SH behaviors, such as NSSI, are beginning to be viewed as common activities in adolescence for some individuals. RT

emerges and declines at specific age ranges, most frequently occurring between the ages of 12 and 15 years (Steinberg, 2008). SH occurs over a longer time span, frequently occurring between the ages of 15 and 35 (Gratz & Chapman, 2009). SH may persist into adulthood (Nock et al., 2007), whereas RT for the most part declines after adolescence. Some researchers have discussed NSSI as evidencing two developmental trajectories: adolescent limited and life course prevalent. SH is usually linked to depressive mood and the reduction of unwanted or unpleasant affect states (Glenn & Klonsky, 2010), whereas RT is associated with a variety of moods, including euphoria (Steinberg, 2004). The presence of peers often increases RT (Steinberg, 2008). SH most often occurs in solitude, although one form of SH, NSSI, has been noted to be a group behavior for some individuals. With SH, the goal of the behavior is direct, intentional, physical harm where with RT, the goal is not direct, intentional harm, but physical damage may result (Gratz & Chapman, 2009).

As noted above, the relationship between the constructs of SH and RT evidence conceptual, clinical, and empirical support. However, SH and RT also evidence differences. For example, SH and RT can vary in frequency and lethality. The commonalties and differences between SH and RT support that they are independent, but related constructs. Further, there is a high frequency of RT and SH behaviors in adolescent populations and there is evidence that engagement in either RT or SH is associated with engagement in both forms of SDB. The next section presents a model for understanding the increased engagement in SDB during adolescence.

Dual Systems Model of Adolescent Risk Taking

Steinberg (2010) provides an explanation for the differences in engagement in RT behaviors at different ages with the DSMART. It was once thought that adolescents lacked the cognitive ability of adults to make decisions using logical reasoning. However, empirical studies support that the logical reasoning of adolescents is equal to that of adults (Steinberg, 2010). Therefore, adolescents appear to understand the risk of behaviors, but still choose to engage in high risk behaviors. Adults understand the risk, but are less likely to engage in high risk behaviors as compared to adolescents. Therefore, lack of sound, logical reasoning is not an explanation for the high level of engagement in RT during adolescence. Steinberg's DSMART accounts for the increased RT during adolescence and is based on emerging evidence regarding the maturation of brain processes during adolescence and behavioral studies of decision making, impulsivity, and reward-seeking.

Steinberg's DSMART is based on findings of behavioral studies in two areas: incentive processing (reward-seeking) and cognitive control (impulsivity). The incentive processing system is responsible for the valuation and prediction of rewards and punishment and the processing of social and emotional information. The cognitive control system is responsible for regulating impulses, logical reasoning, and planning. As the cognitive control system matures, better impulse control, coordination of emotion and cognition, planning, and foresight emerge. Steinberg (2010) conducted a large scale study of 935 individuals from 10 to 30 years of age to study age differences in impulsivity and reward-seeking. Impulsivity was examined using a self-report measure of impulsivity and the Tower of London task. The Tower of London task is a computer administered task

where participants had an unlimited amount of time to complete a puzzle task by moving objects (i.e., balls) on the screen to match a model with as few moves as necessary. The task measures planning and executive function and is used as a measure of impulsivity. Reward-seeking was assessed using a self-report measure of reward-seeking and a modified version of the Iowa Gambling task where participants attempted to win pretend money by playing or passing cards on a computer screen. The pattern of passing or playing cards from two decks that always produced gains and two decks that always produced losses served as a measure of reward-seeking versus cost-aversion. Steinberg concluded that the patterns in which the incentive processing system (reward-seeking) and the cognitive control system (regulating impulsivity and coordination of emotion with cognition) develop across the ages of 12 to 30 years are different. Incentive processing follows a curvilinear pattern increasing from preadolescence to mid-adolescence and then declines afterward. In general, reward-seeking is higher in middle adolescence (12 to 15 years) than before or after. Cognitive control, however, follows a linear pattern where it increases steadily from ages 10 to 30.

Steinberg (2010) further supports the DSMART with recent neuroscientific evidence of developmental changes in brain structure and activity. Neuroscientific evidence for this change in functioning comes from two neurodevelopmental patterns. First, the volume of gray matter of the brain increases until 10 to 12 years of age when synaptic pruning produces a decline and streamlining of functions in the frontal and parietal lobes which are responsible for cognitive control. In addition, there is a whole-brain increase in white matter that extends into ages in the 20's. This volume increase is considered to be attributable to increases in myelination and is subsequently associated

with increases in cognitive control. This second pattern of change also evidences increases of the dopaminergic activity that results in increases in reward-seeking behaviors and sensitivity to social and emotional stimuli.

The DSMART uses the different developmental patterns of reward-seeking and impulsivity to account for the increases in the vulnerability to engage in RT during middle adolescence. Thus, a period of increased vulnerability to RT emerges in middle adolescence when increased sensitivity to social and emotional stimuli with higher inclinations to seek rewards is evident and the capacities for self-control are not fully developed (Steinberg, 2010). The age span of 12 to 15 years is noted as the age span when reward-seeking is at the highest and cognitive control (of impulsivity) is not fully developed. During ages 10 to 11, impulsivity is at a higher level than at 12 to 15 years (low or less mature cognitive control); however, there are lesser inclinations toward reward-seeking than in mid-adolescence. Therefore, the engagement in highest levels of RT is not be expected during ages 10 and 11. Across ages 16 to 30, there are steady declines in impulsivity (increasing cognitive control), while there are also declines in reward-seeking. The reward-seeking declines are greater at the younger ages of the 16 to 30 year age span than the older ages. RT behaviors would be expected to decrease across the 16 to 30 year age span until 26 to 30 years of age, with larger decreases noted at the younger ages. The age span of 26 to 30 years evidences the lowest levels of reward-seeking along with the lowest levels of impulsivity (highest cognitive control; Steinberg, 2010).

Purpose

As noted in the review, the constructs of RT and SH are clinically, empirically, and conceptually related. In that RT and SH behaviors are highly evident in adolescent populations, there is a high potential for harm. Because of the potential for harm, there is a need to better understand these behaviors. RT and SH behaviors impact a large number of adolescents, are highly likely to co-occur, and are frequently noted to co-occur in clinical samples. Therefore, it is important to investigate the two simultaneously. The DSMART has been proposed to account for the RT behaviors that occur in adolescence. In that RT and SH are related, it is proposed that SH behaviors will evidence a similar developmental pattern as predicted by the DSMART. Rates of NSSI and suicide attempts are the highest during adolescence, as are RT behaviors. The incentive processing system, which is linked to social and emotional processing, and the cognitive control system, which is linked to coordination of emotion and cognition, are plausible contributors to the emotional dysregulation noted in SH behaviors. Therefore, SH may evidence a similar trajectory as that of RT. The ages of actual engagement in RT behaviors have not been investigated relative to the DSMART predictions for ages of high engagement. It is unknown if engagement in RT behavior is more frequent during the 12 to 15 year age span identified in Steinberg's research supporting the DSMART. The DSMART predicts a higher frequency of RT behaviors between the ages of 12 and 15. While the DSMART provides a model to explain RT, the relationship and connections reviewed between RT and SH provide support for investigating engagement in SH relative to the DSMART age predictions for high engagement. Rates of NSSI and suicide attempts are highest during adolescence and RT and SH are noted to co-occur.

The current study seeks to gain additional information on the age of high frequency engagement in RT and SH behaviors through a retrospective report from a college age sample of individuals in late adolescence to early adulthood.

Research Question

Do retrospective reports of ages of engagement in RT and SH behaviors evidence a pattern of high engagement during middle adolescence consistent with the Dual Systems Model of Adolescent Risk Taking?

The specific hypotheses are as follows:

1. Retrospective reports of RT behaviors between the ages of 10 and 30 years will be most frequent during the age span of 12 to 15 years.
2. Retrospective reports of SH behaviors between the ages of 10 and 30 years will be most frequent during the age span of 12 to 15 years. (If sufficient data is available)
3. Retrospective reports of lifetime engagement in RT and SH will be significantly and positively correlated.

Method

Participants

A total of 266 college students completed the questionnaire. Thirty-five participants did not complete the survey in its entirety and were removed from the sample yielding a final sample of 231. Participants' ages ranged from 18 to 48 years, with a mean age of 22.8. However, the modal age was 19 years (28.1%). The majority of the respondents (N = 231) were Caucasian (81.4%) and female (80.1%). The remaining 18.6% indicated their ethnicity as Asian (2.2%), Hispanic (1.3%), African American (8.7%), Native American (2.6%), Bi-racial (3%), or other (0.9%). Regarding sexual orientation, 93.9% of the participants indicated that they are heterosexual, 4.8% bisexual, 0.4% questioning their sexuality, 0.4% gay, and 0.4% lesbian. Regarding education levels, 8.2% of the sample were college freshman, 39.8% were college sophomores, 20.8% were college juniors, 16% were college seniors, 11.3% were graduate students, and 3.9% reported other.

Instrument. A survey developed to solicit information to address the research questions and hypotheses provided the data for this investigation. Data collection was conducted as part of a larger study. Appendix A includes the complete survey with the items included in the current study in boldface font. The items used in the current study comprised three sections: demographics (7 questions), RT (12 questions), and SH (18 questions). Appendix B includes the RT and SH items and item abbreviations used in the current study. The RT and SH sections each had an age subsection that consisted of three questions about participant's age(s): age started, age most frequently engaged, and age stopped or current rates of engagement.

The RT and SH questions were taken from the RTSHIA and used with permission of the first author (Vrouva et al., 2010; I. Vrouva, personal communication, March 18, 2012). However, only 29 of the 36 original items were used. Items not used for this study lacked adequate psychometric properties and were recommended by Vrouva et al. (2010) for exclusion. All participants responded to an engagement question for each behavior indicating whether or not they have engaged in the identified behavior. Skip logic enabled participants to omit the age subsection if they indicated "never" to a RT or SH behavior item.

The core of this survey consisted of the RTSHIA (Vrouva et al., 2010), a scale that assesses RT and SH simultaneously. The RTSHIA is designed to assess adolescent RT and SH in community and clinical settings. Participants respond indicating their frequency of engagement ("never", "once", "more than once", or "many times") in specific RT and SH behaviors over their lifetime. Twenty-nine of the original 36 items were retained in the final version of the RTSHIA that was validated with community and clinical samples in England (N = 722; 11.6 to 18.7 years). The community sample (n = 651) included adolescents and the clinical sample included adolescents referred to outpatient treatment for SH behavior (n = 71; 11.9 to 17.5 years). The majority of the participants were female (82.7%). Although designed for adolescent populations (11 to 19 years), the current study utilized the RTSHIA validated questions in a new manner, asking an older sample (i.e., college students) to retrospectively report lifetime engagement in RT and SH behaviors in an attempt to examine ages of actual engagement.

The RTSHIA appears to be an appropriate measure of both RT and SH. Exploratory and confirmatory factor analyses supported a two-factor structure. Both

factors (RT and SH) demonstrated high internal consistency, test-retest reliability, convergent, concurrent, and divergent validity (Vrouva et al., 2010). The RTHSIA demonstrated high reliabilities for both the RT scale (α = .85, n = 707) and SH scale (α = .93, n = 675). Convergent and divergent validity of the RT and SH scales evidenced significant correlations with similar and dissimilar measures. The RT and SH scales of the RTSHIA correlated positively with the Short Mood and Feelings Questionnaire with the SH scale evidencing a significantly stronger correlation (r = .61) than the correlation for the RT scale (r = .251; Steiger's z = -10.08). The Borderline Personality Features Scale for Children correlated significantly with both RT and SH, but the SH scale was significantly higher than the RT scale (Steiger's z = 8.54). The RT and SH scales evidenced a similar pattern with most scales of the Millon Adolescent Clinical Inventory (MACI) evidencing significant correlations with both RT and SH scales, but significantly different correlations in the expected direction. The highest correlations were between SH and the MACI suicidal tendency scale and RT and the MACI substance abuse scale. The SH scale evidenced higher positive correlations with the MACI self-devaluation, introversion, childhood abuse, and depressive affect scales than the RT scale. RT correlated highest with the MACI substance abuse scale and unruly scale and negatively with the MACI anxious feelings scale. Correlations between RT and the MACI forceful, substance abuse, unruly, delinquent predisposition, anxious feelings, and impulsive propensity scales were significantly stronger than the correlations between these scales and SH. In general, RT showed higher correlations with externalizing behaviors, although both scales evidenced significant correlations. These results supported that RT and SH are related, yet separate constructs, as they both evidenced significant correlations for the

majority of the scales and the differences between the RT and SH correlations with each scale or measure were for the most part significant.

Procedure

A convenience sample of college students was recruited from graduate and undergraduate psychology classes. Instructors of psychology classes were contacted via e-mail and asked to consider web-based survey participation as an extra credit opportunity for students in their class(es) and/or to announce the survey and the survey URL to students for voluntary participation. Instructors were provided an email with a description of the study and web link for the study site that was active on a secure online survey site. Participants were sent the survey description and web link from their professor via email. Participants accessed the survey at their convenience on the secure website where they were first shown the informed consent page which provided a description of the study along with risks and benefits of participation (Appendix A). After attesting they were 18 years of age or older and indicating their consent, they were able to access the survey (Appendix A). The number of questions answered by each participant varied due to skip logic based on participant responses. The survey consisted of a minimum of 208 questions and a maximum of 375 questions. After completion of the survey, participants were directed to a separate online form on a website outside of the survey platform to provide their name, student identification number, and course instructor's name for the purpose of awarding credit for participation. At the end of the online form, participants were provided the debriefing statement and an optional comment section (Appendix A). Participants who were not completing the survey for extra credit were also directed to the online form to view the debriefing statement. Links

to mental health resources are provided in the survey. Approval was received from the Western Kentucky University Institutional Review Board on June 28, 2012 (Appendix C).

Results

Descriptive Analysis

Three participants were removed from the sample prior to the analysis due to lack of engagement in any behavior on the RT scale and on the SH scale. The sample used in the analyses consisted of 228 participants who indicated engagement in at least one RT behavior and one SH behavior. The sample mean age was 22.8 years and was primarily female (79.8%), Caucasian (81.6%), and heterosexual (93.9%).

RT and SH engagement rates. The sample evidenced more engagement in the RT behaviors than the SH behaviors. Across the entire sample (N = 228), more than half reported engagement in some form of SH (n = 139), and almost all reported engagement in some form of RT (n = 227). The SH behavior responses were highly skewed in a positive direction (skewness = 2.403), indicating a higher frequency of "never" and "once" responses to engagement in SH behaviors. The RT behavior responses were more normally distributed. Table 1 contains the engagement rates for the sample by subgroups of behaviors within the RT and SH scales. Subgroups for the 12 RT behaviors were consistent with the types of RT behaviors noted within the literature (Walsh, 2012): Situational-RT (six items), Physical-RT (four items), and Sexual-RT (two items). The 18 SH items were grouped to represent three types of SH: NSSI-SH (seven items), General-SH (nine items), and Suicide-SH (two items; Appendix B).

Table 1

Frequency of Participant Engagement in Risk Taking (RT) and Self-Harm (SH) Behaviors by Subgroup

Scale Subgroups	Never % (*n*)	Once % (*n*)	Once or More[a] % (*n*)	High MHE[b] % (*n*)	Low MHE[c] % (*n*)	Total MHE[d] % (*n*)
RT Scale						
Situational	0.4 (1)	3.1 (7)	99.6 (227)	64.5 (147)	32.0 (73)	96.5 (220)
Physical	16.7 (38)	11.8 (27)	83.3 (190)	25.0 (57)	46.5 (106)	71.5 (163)
Sexual	32.5 (74)	13.6 (31)	67.5 (154)	19.2 (44)	34.6 (79)	53.9 (123)
SH Scale						
NSSI	63.2 (144)	8.3 (19)	36.8 (84)	0.4 (1)	27.6 (63)	28.1 (64)
General	39.0 (89)	28.1 (64)	61.0 (139)	1.8 (4)	34.2 (78)	36.0 (82)
Suicide	72.4 (165)	14.0 (32)	27.6 (63)	0.4 (1)	14.9 (34)	15.4 (35)

Note: Situational composed of 6 behavior items (Took Recreational Risk, Drove Recklessly, Took Risk/Likely Caught, Suspended from School, Stayed Out Late, and Fought/Carried Weapon). *Sexual* comprised of 2 behavior items (Been Promiscuous and Avoided Sex Precautions). *Physical* composed of 4 behavior items (Intoxicated, Used Drugs, Smoked/Chewed Tobacco, and Suffocated/Choked). *NSSI* composed of 7 behavior items (Cut, Burned, Bitten/Broke Skin, Banged Head/Hit, Picked/Prevented Healing, Scratched/Scraped, and Rubbed/Applied Toxic). *General SH* composed of 9 behavior items (Exercised an Injury, Pulled Hair, Starved to Punish, Overate to Punish, Stayed in Abusive Relationship, Bad Thoughts About Self, Overdosed, Thought Body Harm, and Hospitalized). *Suicide* composed of 2 behavior items (Thought Suicide and Attempted Suicide).

[a] Once or More is a total of responses for "once", "more than once", and "many times" responses.

[b] High MHE refers to a response pattern indicating Moderate to High Engagement [MHE, "more than once" or "many times" response(s)] on more than half of the behavior items in the subgroup.

[c] Low MDE refers to a response pattern indicating Moderate to High Engagement (MHE, "more than once" or "many times" response(s)] on less than half of the behavior items in the subgroup.

[d] Total MHE Total refers to the total number of behavior items with a response pattern indicating one or more "more than once" or "many times" response(s).

Engagement in RT behaviors was high for the sample. The highest frequency of lifetime engagement (one time or more) for the RT subgroups was in Situational-RT (99.6%, *n* = 227), followed by Physical-RT (83.8%, *n* = 191), and Sexual-RT (67.5%, *n* = 154). Cases were grouped based on response ("never", "once", "more than once", and

"many times"), by response patterns of moderate to high engagement (MHE; one or more "more than once" and/or "many times" responses per subgroup), and further broken down by proportion of responses indicating MHE (Low MHE, High MHE). Using proportion of responses (behaviors) enabled the comparison of level of engagement across subgroups and scales with differing number of behaviors. Low MHE indicated the response pattern where less than half of the behaviors in the subgroup evidenced at least one "more than once" or "many times" response. High MHE indicated the response pattern where half or more of the behavior items in the subgroup evidenced at least one "more than once" or "many times" response. The Situational-RT subgroup evidenced the largest amount of High MHE responses (64.5%, *n* = 147), followed by the Physical-RT subgroup (25%, *n* = 57), and the Sexual-RT subgroup (19.2%, *n* = 44). The Physical-RT subgroup (46.5%, *n* = 106) evidenced the largest amount of Low MHE responses, followed by the Sexual-RT (36.4%, *n* = 79), and the Situational-RT (32%, *n* = 73).

Engagement in SH behaviors was observed to be lower than the level for engagement in RT behaviors. Within the SH subgroups, General-SH evidenced the highest frequency of lifetime engagement (one time or more; 64.5%, *n* = 147), followed by NSSI-SH (36.8%, *n* = 84), and Suicide-SH (24.1%, *n* = 55). Frequency of engagement in SH was further analyzed by examining the frequency of engagement by individual case or respondent and level of engagement consistent with the RT engagement categories. The SH subgroups evidenced less than 2% of individuals reporting High MHE. However, the Low MHE response pattern was evident. For the Low MHE pattern, the General-SH behaviors evidenced the highest frequency (34.2%, *n* = 78), followed by NSSI-SH behaviors (27.6%, *n* = 63), and Suicide-SH (14.9%, *n* = 34). Engagement (more

than once) in one or more of the General-SH behaviors was moderate (61%, *n* = 139). The engagement (more than once) in the NSSI-SH behaviors evidenced the second most frequent engagement (36.8%, *n* = 84) and Suicide-SH behaviors evidenced the lowest rate of engagement (27.6%, *n* = 63).

The sample evidenced a comparable level of overall reports of NSSI and suicide, as compared to typical community populations. In the current study, 28.1% (*n* = 64) indicated total MHE across all NSSI behaviors and this frequency was roughly comparable to rates typically reported within community high school samples (between 15 and 25%; Muehlenkamp & Gutierrez, 2004; 2007; between 13 and 45%; Rodham & Hawton, 2009). More specifically, reports of lifetime engagement in two NSSI behaviors were also comparable, falling within the percentages typically found within community samples: Cut (15.8%, *n* = 36) and Picked/Prevented Healing (17.5%, *n* = 40). Further, skin cutting and interfering with wound healing are considered typical or common methods of NSSI (Nock, 2009). The YRBS (CDC, 2012), indicated 19.3% of adolescents have seriously considered attempting suicide and the current study indicated 23.7% of participants thought about killing themselves. The current survey results indicated 6.58% reported once or more when asked, "Have you ever attempted suicide?" which was very comparable to the 7.8% rate found in the YRBS study (CDC, 2012).

Due to the broad ranges of reports of engagement in RT behaviors within community samples (e.g., 5.1 to 87.5%; YRBS; CDC, 2012), RT was examined by individual behaviors to determine similarities between the current study and YRBS findings (CDC, 2012). This study evidenced comparable levels of engagement in taking chances while participating in hobbies (current 91.2%; YRBS 87.5% for riding a bike

with no helmet). The sample also evidenced comparable levels of engagement in alcohol use (current 79%; YRBS 70.8%). Additionally, reported levels of self-suffocating or choking (4%), were comparable to those found in other studies (5.7 to 6.6%; Brausch et al., 2011). Levels of smoking and/or chewing tobacco (current 50%) were comparable if the separate percentages for smoking (44.7%) and using smokeless tobacco (7.7%) in the YRBS (CDC, 2012) were combined. Reported engagement in drug use (46.5%, n = 106), was comparable to reports of marijuana use in community samples (39.9%; CDC, 2012), but higher than reports of cocaine use (6.8%; CDC, 2012). Higher current rates are most likely due to the generalization of the item within the current study which asked about use of drugs and not a specific drug. Carrying a weapon or participating in gang violence was evident in 13.6% of the current sample and comparable to the YRBS (16.6%; CDC, 2012). A comparison cannot be made for the sexual promiscuity and sexual activity without using methods to prevent pregnancy or sexually transmitted diseases due to the differences in questions for the YRBS.

Age of engagement. Tables 2 and 3 contain the descriptive statistics for the age variables of the 12 behaviors on the RT scale and the 18 behaviors on the SH scale. The age variables included: age started, age of most frequent engagement, and age stopped or rate of continued engagement (same, more, less). There was a diverse range of mean ages across the RT and SH age variables for individual behaviors. Therefore, the descriptive data for the age variables are also presented for the RT and SH scale subgroups in Table 4. The subgroups are consistent with those used to describe the rates of engagement.

Table 2

Age Variables Descriptive Data for the Risk Taking (RT) Scale Behaviors

		Mean Age			Frequency of Continued Engagement		
RT Scale Behaviors	% (*n*)	Start (*SD*)	Most Frequent (*SD*)	Stop (*SD*)	More % (*n*)	Same % (*n*)	Less % (*n*)
Took Recreational Risk	91.2 (208)	11.9 (2.33)	15.0 (2.92)	17.8 (0.59)	2.87 (6)	23.4 (53)	28.2 (59)
Drove Recklessly	75.9 (173)	17.0 (2.71)	18.6 (2.95)	20.3 (3.50)	4.02 (7)	8.6 (15)	17.8 (31)
Took Risk/Likely Caught	76.3 (174)	14.5 (2.80)	16.1 (2.43)	17.9 (2.84)	1.16 (2)	7.51 (13)	11.0 (19)
Suspended from School	14.5 (33)	15.0 (2.31)	15.5 (2.14)	16.3 (3.14)	-----	-----	-----
Stayed Out Late	82.5 (188)	16.4 (1.78)	17.4 (1.56)	19.2 (2.46)	-----	-----	-----
Fought/Carried Weapon	13.6 (31)	15.4 (2.91)	16.6 (2.96)	17.4 (3.18)	3.13 (1)	6.25 (2)	0.00 (0)
Been Promiscuous	42.5 (97)	18.1 (2.61)	19.5 (2.61)	21.0 (3.22)	7.14 (7)	3.06 (3)	4.08 (4)
Avoided Sex Precautions	55.3 (126)	18.1 (3.03)	19.4 (2.72)	20.9 (3.64)	11.3 (14)	16.1 (20)	0.00 (0)
Intoxicated	79.0 (180)	17.7 (2.27)	19.6 (2.38)	21.3 (3.41)	17.9 (32)	14.5 (26)	16.8 (30)
Used Drugs	46.5 (106)	17.5 (2.63)	18.7 (2.44)	19.9 (3.37)	8.33 (9)	4.63 (5)	6.48 (7)
Smoked/Chewed Tobacco	50.0 (114)	16.4 (2.53)	18.5 (2.62)	19.5 (3.84)	14.0 (16)	19.3 (22)	10.5 (12)
Suffocated/Choked	4.0 (9)	15.1 (4.05)	15.3 (3.94)	15.7 (3.87)	0.00 (0)	0.00 (0)	0.00 (0)
TOTAL	100.0 (228)	16.0 (1.73)	17.6 (1.83)	19.1 (2.29)	-----	-----	----

Note: Percentages will exceed 100% as participants could report more than one RT behavior.

Table 3

Age Variables Descriptive Data for the Self-Harm (SH) Scale Behaviors

SH Scale Behaviors	% (*n*)	Mean Age			Frequency of Continued Engagement		
		Start (*SD*)	Most Frequent (*SD*)	Stop (*SD*)	More % (*n*)	Same % (*n*)	Less % (*n*)
Cut	15.8 (36)	15.6 (3.56)	16.5 (3.04)	17.5 (3.20)	0.00 (0)	2.78 (1)	5.56 (2)
Burned	4.39 (10)	16.3 (1.83)	16.3 (1.84)	16.4 (1.78)	0.00 (0)	0.00 (0)	0.00 (0)
Bitten/Broke Skin	4.39 (10)	14.3 (3.29)	15.1 (3.50)	15.2 (4.09)	0.00 (0)	18.2 (2)	0.00 (0)
Banged Head/Hit	13.6 (31)	14.9 (2.94)	16.2 (2.77)	17.1 (3.43)	0.00 (0)	0.00 (0)	6.45 (2)
Picked/Prev. Healing	17.5 (40)	12.5 (3.04)	15.0 (3.17)	16.3 (4.00)	0.00 (0)	17.1 (7)	31.7 (13)
Scratched/Scraped	14.0 (32)	13.8 (2.98)	15.3 (2.90)	16.0 (2.87)	0.00 (0)	18.2 (6)	6.06 (2)
Rubbed/Applied Toxic	2.63 (6)	16.7 (2.94)	16.8 (3.01)	17.2 (3.43)	0.00 (0)	0.00 (0)	0.00 (0)
Exercised an Injury	2.63 (6)	17.2 (2.40)	17.9 (2.01)	18.4 (1.95)	0.00 (0)	16.7 (1)	0.00 (0)
Pulled Hair	12.3 (28)	13.8 (3.87)	15.1 (3.54)	15.7 (3.82)	0.00 (0)	14.8 (4)	0.00 (0)
Starved to Punish	15.8 (36)	16.1 (3.00)	17.5 (2.50)	18.7 (3.22)	5.55 (2)	8.33 (3)	11.1 (4)
Overate to Punish	0.88 (2)	17.0 (8.49)	19.8 (4.48)	24.0 (0.00)	0.00 (0)	0.00 (0)	50.0 (1)
Stayed/Abusive Relat.	46.0 (105)	17.0 (3.92)	18.3 (3.84)	19.5 (3.94)	3.81 (4)	7.62 (8)	4.76 (5)
Bad Thoughts/Self	20.2 (46)	15.5 (4.76)	17.7 (4.01)	18.9 (3.20)	6.52 (3)	17.4 (8)	15.2 (7)
Overdosed	11.8 (27)	17.4 (4.09)	18.3 (4.01)	19.2 (4.98)	0.00 (0)	7.41 (2)	3.70 (1)

Table 3 (Cont.)

SH Scale Behaviors	% (*n*)	Mean Age			Frequency of Continued Engagement		
		Start (*SD*)	Most Frequent (*SD*)	Stop (*SD*)	More % (*n*)	Same % (*n*)	Less % (*n*)
Thought Body Harm	14.0 (32)	15.6 (4.66)	17.8 (3.66)	19.2 (3.59)	3.13 (1)	3.13 (1)	12.5 (4)
Thought Suicide	23.7 (54)	16.0 (4.05)	17.8 (3.27)	-----	-----	-----	-----
Attempted Suicide	6.58 (15)	14.4 (2.03)	16.8 (2.52)	-----	-----	-----	-----
Hospitalized	5.26 (12)	17.3 (4.22)	18.7 (4.39)	20.2 (6.29)	8.33 (1)	0.00 (0)	0.00 (0)
TOTAL	100.0 (228)	15.9 (3.26)	17.3 (3.13)	18.2 (3.51)	-----	-----	-----

Note: Percentages will exceed 100% as participants could report more than one SH behavior.

Table 4

Descriptive Data for the Age Variables for the Risk Taking (RT) and Self-Harm (SH) Scale Subgroups

Scale Subgroups	% (*n*)	Mean Age		
		Start (*SD*)	Most Frequent (*SD*)	Stop (*SD*)
RT Scale				
Situational	99.6 (227)	14.8 (1.72)	16.6 (1.82)	18.6 (2.37)
Physical	83.8 (191)	17.5 (2.27)	19.0 (2.25)	20.0 (3.17)
Sexual	67.5 (154)	18.1 (2.69)	19.3 (2.68)	20.7 (3.23)
RT Total	100.0 (228)	16.0 (1.73)	17.6 (1.83)	19.1 (2.29)
SH Scale				
NSSI	36.8 (84)	14.0 (2.82)	15.4 (2.86)	16.6 (3.24)
General SH	64.5 (147)	16.6 (3.58)	17.9 (3.32)	18.8 (3.70)
Suicide	24.1 (55)	16.1 (3.99)	17.8 (3.26)	-----
SH Total	100.0 (228)	15.9 (3.26)	17.3 (3.13)	18.2 (3.51)

Note: Situational composed of 6 behavior items (Took Recreational Risk, Drove Recklessly, Took Risk/Likely Caught, Suspended from School, Stayed Out Late, and Fought/Carried Weapon). *Sexual* comprised of 2 behavior items (Been Promiscuous and Avoided Sex Precautions). *Physical* composed of 4 behavior items (Intoxicated, Used Drugs, Smoked/Chewed Tobacco, and Suffocated/Choked). *NSSI* composed of 7 behavior items (Cut, Burned, Bitten/Broke Skin, Banged Head/Hit, Picked/Prevented Healing, Scratched/Scraped, and Rubbed/Applied Toxic). *General SH* composed of 9 behavior items (Exercised an Injury, Pulled Hair, Starved to Punish, Overate to Punish, Stayed in Abusive Relationship, Bad Thoughts About Self, Overdosed, Thought Body Harm, and Hospitalized). *Suicide* composed of 2 behavior items (Thought Suicide and Attempted Suicide).

The lowest age of first engagement across the RT and SH subgroups was for the NSSI-SH behaviors (14), followed by Situational-RT behaviors (14.8), Suicide-SH behaviors (16.1), General-SH behaviors (16.6), Physical-RT behaviors (17.5), and Sexual-RT behaviors (18.1). Across the subgroups of RT and SH scales, the lowest mean age of most frequent engagement followed the same ranking as the mean age of first engagement with NSSI-SH (15.4) as lowest, followed by Situational-RT (16.6), Suicide-SH (17.8), General-SH (17.9), Physical-RT (19), and Sexual-RT (19.3). The lowest age of ceasing engagement was for the NSSI-SH scale (16.6), followed by the Situational-RT (18.6), General-SH (18.8), Physical-RT (20), and Sexual-RT (20.7).

Mean ages across the RT and SH subgroups were diverse. A series of paired samples *t* tests for the three subgroups of the RT scale (Situational, Physical, Sexual), and the three subgroups of the SH scale (NSSI, General, Suicide), for mean age of most frequent engagement were performed to determine the need to examine the ages by subgrouping. Due to multiple comparisons, the Bonferroni correction was used to adjust the significance level to $p = 0.0083$ to control for the Type I error rate. The results indicated that there were significant differences within the RT and SH subgroups for at least two of the three paired comparisons within each scale. The RT subgroups evidenced that the mean age of most frequent engagement for the Physical-RT behaviors ($M = 19.1$, $SD = 2.15$), was significantly higher than the mean age for the Situational-RT behaviors [$M = 16.6$, $SD = 1.83$; $t(189) = 15.6$, $p = <.001$, $d = 1.25$]. The Sexual-RT behaviors mean age of most frequent engagement ($M = 19.3$, $SD = 2.68$) was also found to be significantly greater than the mean age for the Situational-RT behaviors [$M = 16.8$, $SD = 1.73$; $t(153) = -11.7$, $p = <.001$, $d = 1.11$]. The effect sizes for the Situational-Sexual-RT and the Situational-Physical-RT were 1.25 and 1.11, respectively. The Sexual-RT and Physical-RT subgroups evidenced no significant difference in mean age of most frequent engagement.

The paired samples *t* tests on the three subgroups of SH for mean age of most frequent engagement indicated that the General-SH subgroup ($M = 17.8$, $SD = 3.48$) was significantly greater than the mean age for the NSSI-SH subgroup [$M = 15.3$, $SD = 2.77$; $t(58) = -5.15$, $p = <.001$, $d = .8$]. The mean age of most frequent engagement for the Suicide-SH subgroup ($M = 17.5$ $SD = 3.59$) was significantly greater than the mean age for the NSSI-SH subgroup [$M = 15.4$, $SD = 2.59$, $t(41) = -3.71$, $p = .001$, $d = .85$]. The

effect sizes for these comparisons were large (.8 and .85 respectively). The Suicide-SH and General-SH subgroups evidenced no significant difference in mean age of most frequent engagement.

To establish the reliability of the RT and SH scales for this sample, coefficient alphas were obtained. The responses to the engagement items for the RT and SH harm scales were coded so that lower scores indicated low or no engagement (1 = "never", 2 = "once", 3 = "more than once", and 4 = "many times"). The reliabilities of the RT and the SH scales were strong, but did not evidence the level needed for diagnostic measures. The alpha for the RT scale (N = 228) was α = .80. The alpha for the SH scale (N = 228) was α = .83.

Hypothesis Testing

Hypothesis 1. Hypothesis 1 predicted that retrospective reports of the age when RT behavior engagement is most frequent would be during the age span of 12 to 15 years. A one sample *t* test conducted on the RT scale mean age of most frequent engagement and the mean for the predicted age range (13.5) indicated the mean age was significantly different. The RT sample mean (M = 17.6, SD = 1.83) was significantly higher than 13.5 years, $t(226) = 33.56$, p = <.001. One sample *t* tests comparing the RT subgroup mean ages to Steinberg's mean age (13.5) were also conducted due to the differences noted in rates of engagement for the RT subgroups. All comparisons were significant indicating that the mean age of high frequency engagement for each RT subgroup was significantly higher than Steinberg's predicted mean age (13.5). The Situational-RT subgroup (M = 16.6, SD = 1.82) was significantly higher than 13.5, $t(226) = 25.4$, p = < .001. Similarly, the Sexual-RT subgroup (M = 19.3, SD = 2.68) was

significantly higher, $t(153) = 26.9$, $p = <.001$, as well as the Physical-RT subgroup [M = 19.1, SD = 2.15; $t(189) = 35.61.6$, $p = <.001$]. Additional data regarding age of most frequent engagement came from examining the overlap of the score range determined by the 95% confidence intervals of the mean age of highest engagement for the RT scale, subgroups (Situational, Physical, Sexual), and items with 13.5 years (mean of Steinberg's predictions; conservative overlap) and 15 years (highest age of Steinberg's predictions; liberal overlap). Based on 95% confidence interval score ranges, only one RT item (Suffocated/Choked) overlapped with 13.5 years (conservative overlap); however, five of the RT behaviors (Took Recreational Risk, Took Risk/Likely Caught, Suspended from School, Fought/Carried Weapon, and Suffocated/Choked; 41.6% of items) age ranges overlapped with 15 years (liberal overlap). None of the RT subgroup behaviors mean age range of highest engagement overlapped with 13.5 or 15 years. Hypothesis 1 is not supported with the mean age statistical comparisons; however, some support was noted in a less formal analysis of confidence interval overlap for individual RT behaviors.

Hypothesis 2. Hypothesis 2 predicted that retrospective reports of age of most frequent engagement in SH behaviors would be most frequent during the age span of 12 to 15 years. A one sample *t* test conducted on the SH total mean age of most frequent engagement was employed to determine whether the mean age was significantly different from 13.5 years. The SH scale mean age (M = 17.2, SD = 3.13) was significantly higher than 13.5 years, $t(167) = 15.54$, $p = <.001$.

One sample *t* tests comparing the SH subgroup mean ages to Steinberg's mean age (13.5) were also conducted. All SH subgroup comparisons were significant indicating that the mean age of high frequency engagement was significantly higher than 13.5 for all

SH subgroups. The NSSI-SH behaviors (M = 15.4, SD = 2.86) were significantly higher than 13.5, $t(83) = 49.46$ p = <.001. Similarly, the General-SH subgroup (M = 17.9, SD = 3.32) was significantly higher than 13.5 years, $t(145) = 65.05$, p = <.001, as well as the Suicide-SH subgroup [M = 17.8, SD = 3.26; $t(54) = 40.4$, p = <.001]. Additional data regarding age of most frequent engagement came from examining the overlap of an age range computed using the 95% confidence intervals of the SH scale, subgroups (NSSI, General, Suicide), and items with 13.5 years (mean of Steinberg's predictions; conservative overlap) and 15 years (highest age of Steinberg's predictions; liberal overlap). Based on 95% confidence interval ranges for the mean age of most frequent engagement, none of the SH subgroup mean ages overlapped 13.5 years (conservative overlap); however, one of the SH subgroups (NSSI-SH; 33.3% of subgroups) overlapped 15 years (liberal overlap). Within the SH items, one of the 18 behaviors (Bitten/Broke Skin; 5.56%) overlapped 13.5 years (conservative overlap) and 10 of the SH items (Cut, Burned, Bitten/Broke Skin, Banged Head/Hit, Picked/Prevented Healing, Scratched/Scraped, Rubbed/Applied Toxic, Pulled Hair, Overate to Punish, and Attempted Suicide; 55.6% of items) overlapped 15 years (liberal overlap). Hypothesis 2 was not supported by the mean age statistical comparisons; however, some support was noted in a less formal analysis of confidence interval overlap.

Hypothesis 3. Hypothesis 3 predicted that retrospective reports of lifetime engagement in RT and SH total scores would be positively correlated. The responses to the engagement items for the RT and SH harm scales were coded so that lower scores indicated low or no engagement (1 = "never", 2 = "once", 3 = "more than once", and 4 = "many times"). The SH scale responses evidenced a highly skewed distribution in a

positive direction (skewness statistic of 2.403), while the RT scale responses were approximately symmetrical (skewness statistic of .19). Because of the violation of normality, the nonparametric correlation coefficient, Spearman's rho, was used to examine the relationship between the scores on the RT scale and the scores on the SH scale. The computed correlation was positive and significant, but weak (r_s = .237, p = <.001). Hypothesis 3 was supported.

Discussion

The current study utilized retrospective reports of college students to determine actual ages of engagement in RT and SH behaviors. The reported ages of engagement in RT and SH behaviors were compared to empirically derived predictions for age of high frequency engagement in RT behaviors. The DSMART (Steinberg, 2010) served to inform and conceptualize the present investigation and provided the criterion age of 13.5 years for the age of high frequency engagement for both RT and SH.

The sample for the current study included 228 college students with a mean age of 22.8 years. Overall, the current study included a sample that was comparable in terms of suicide and NSSI engagement, which adds some confidence in the findings regarding engagement in SH behaviors. Additionally, the sample evidenced comparable rates in some RT behaviors, as compared to a national sample. The sample's comparable rates of engagement to that of a national sample's suggest that the current sample of participants, although small, evidenced typical engagement rates. This comparability is important for understanding the current findings, ruling out different rates of engagement as a major concern, and builds confidence in generalizing results to larger, more representative samples.

The results supported hypothesis 3 which predicted that a significant and positive correlation would be found in retrospective reports of lifetime engagement in RT and SH. As with Vrouva et al. (2010), the current study found a positive correlation between the RT and SH scales. However, the correlation was smaller than that found in the development of the RTSHIA. Additionally, the current study found comparable, but slightly lower, reliabilities to those found by Vrouva et al. (2010). The differences noted in the correlations and reliabilities in the current study, as compared to Vrouva et al.

(2010), may be partially attributable to differences in sample sizes (N = 228 versus N = 722) and cultural differences (United States versus England). Sample size and cultural differences should be considered when comparing the current results to that of Vrouva et al. (2010), as they may account for some of the differences noted.

The results did not support hypothesis 1 which predicted retrospective reports of RT behaviors between the ages of 10 and 30 years would be most frequent during the age span of 12 to 15 years when using the mean age of 13.5. However, the results indicated that age may vary according to the RT behavior and therefore, RT behaviors were additionally examined by subgroups and items. The RT sample mean and all RT subgroup means of most frequent engagement were significantly higher than Steinberg's mean age. Further, the mean ages were significantly different for item subgroups, with Physical RT and Sexual RT evidencing significantly higher mean ages than Situational RT. Finally, using the 95% confidence interval age range to compare age of most frequent engagement indicated five RT behaviors overlapped the higher end of Steinberg's predicted range (15 years; Took Recreational Risk, Situation Caught, Suspended from School, Fought/Carried Weapon, and Suffocated/Choked). The subgroup mean age differences for the RT behaviors may be due to accessibility and/or opportunity of engagement in some behaviors at different ages. Younger adolescents may have more opportunity to engage in the five RT items with confidence intervals that overlap Steinberg's age range. Conversely, adolescents may not have as much accessibility or opportunity to engage in some of the items that did not fall within the predicted age range. For example, in order to participate in promiscuity and the avoidance of utilizing safe sex precautions, an individual must have reached sexual

maturity. Some adolescents may have not reached sexual maturity by the ages of 12 and 13, and were therefore not yielded the opportunity to participate in sexual RT behaviors at younger ages. Additionally, engagement in the use of tobacco products and consumption of alcohol may not be as frequent during younger ages due to inaccessibility or difficult accessibility. As an adolescent ages, he or she may be better acquainted with individuals old enough to purchase and provide these products.

The results did not support hypothesis 2 which predicted retrospective reports of SH behaviors between the ages of 10 and 30 would be most frequent during the age span of 12 to 15 years when using the mean age of 13.5. As with the RT behaviors, age of most frequent engagement varied according to SH behavior. The SH total mean age and all subgroup means of most frequent engagement were significantly higher than the criterion age of 13.5, representing Steinberg's mean age. Further, differences in mean ages were evident by subgroup with General SH and Suicide SH subgroups both being significantly higher than NSSI. Using the 95% confidence interval to provide a mean age range and comparing that to the age criterion of 13.5 and 15 years indicated 11 of the 18 SH behaviors overlapped the liberal criterion (15 years; Cut, Burned, Bitten/Broke Skin, Banged Head/Hit, Picked/Prevented Healing, Scratched/Scraped, Rubbed/Applied Toxic, Exercised an Injury, Pulled Hair, Overate to Punish, and Attempted Suicide). Further the NSSI SH subgroup mean age of most frequent engagement also overlapped with the highest age in Steinberg's predicted age span (15 years). Although hypothesis 2 was not supported, there was some evidence to support the NSSI SH subgroup to overlap with the liberal criterion of 15 years, which was a 61% overlap. Further, the NSSI SH subgroup had the lowest mean for age started, age most frequently engaged, and age stopped as

compared to the five other subgroups of the RT and SH scales. The next lowest mean age for any subgroup was for the Situational RT, which evidenced a confidence interval overlap with the liberal 15 year criterion for four of the six behaviors or 66.6% of the Situational RT behaviors.

The current findings offer little support for the DSMART predicted age ranges. The current data overall supported an older age range than that suggested by the DSMART. The studies used to support the DSMART were lab based studies (e.g., moving objects or passing or playing cards on a computer screen) to assess impulsivity and reward-seeking behaviors. Completing puzzles and taking risks in a card game do not involve typical daily decisions for adolescents when compared to the contexts of the reported RT and SH behaviors in the current study. RT and SH behaviors do not take place in a vacuum. For example, Chein et al. (2010) noted the facilitating effect of peers in heightening RT. Further, the age differences noted within the RT and SH subgroups seem to support that some RT and SH behaviors may be constrained by developmental (e.g., sexual maturity) and accessibility (e.g., legal age for alcohol, driving, and tobacco) issues. For example, the Situational RT and the NSSI SH subgroups evidenced lower mean scores. These behaviors appear to be less limited by developmental and accessibility issues than other behaviors. The studies supporting the DSMART were cross-sectional in design. There are known problems with the use of cross-sectional data to support developmental trajectories which include generalizability to individuals, cohort effects, and the ability to assess change in the variable being studied. Despite these critiques, the DSMART is a functional model approach to theory development which can serve to focus and stimulate research and lead to theory development.

While the results did not support the hypotheses for mean age of high frequency engagement, they do evidence some findings to note. This study was the first investigation to examine rates of engagement in both RT and SH along with the ages of engagement. Further, the finding that the RT and SH subgroups evidenced differences in the subgroup mean ages may be important for informing future investigations. It was also interesting that the NSSI SH subgroup evidenced the lowest age of initial engagement, most frequent engagement, and ceasing engagement. NSSI may not be as impeded by lack of opportunity or difficult accessibility, as NSSI behaviors can occur independently, in isolation, and do not rely on physical maturity or access to age-restricted materials. Under the same logic, it is understandable that the Situational RT behaviors also evidenced the youngest age for the RT subgroups, as these behaviors have fewer issues with accessibility and age restrictions as noted for the NSSI behaviors.

There were several limitations to consider in evaluating the findings of the current study. The first group of limitations concerns the sample and its size and lack of representativeness in terms of demographic variables. While the participants evidenced typical rates of engagement in RT and SH, the sample was not typical when examining the demographic variables. The sample size was small (N = 228) and the majority of the respondents were Caucasian (81.6%) and female (79.8%). The sample was a convenience sample of college students, and therefore was not representative of the United States population in terms of gender, ethnicity, education level, or socio-economic status. With the exception of comparable levels of individuals who were Caucasian (81.6% versus 80.8%), the sample was not representative of the university population from which it was drawn, as it consisted of a higher number of females (79.8% versus 59.6%), a lower

number of males (20.2% versus 40.4%), and a lower number of individuals who are African American (8.7% versus 10.4%; Western Kentucky University, 2012). Socio-economic status was unknown for the sample, although the educational level was high, which predicts disproportionately middle to high socio-economic status for the sample. Additionally, Vrouva et al. (2010) included a community and clinical sample, whereas the current study included only a community sample. A larger, random, more representative sample which included clinical populations may yield different results (e.g., higher reliability, different ages reported).

Another group of limitations were due to the use of a survey method for data collection. The survey method of data collection utilized self-reporting, which relied on participants' comprehension of items, concentration, and openness to sharing personal information. The survey was long (i.e., between 208 and 375 questions), which may have impacted the accuracy of reporting due to lack of concentration or diminished care in responding over time. Although participants were ensured of confidentiality and anonymity of responses, participants may have been cautious and failed to provide personal information to adult researchers who they may view as authority figures (Fox & Hawton, 2004). It should be noted that 13% (n = 35) of participants did not complete the survey in its entirety and were therefore not used in analyses.

A third limitation was the use of retrospective reporting which can yield inaccurate information. Participants were asked to select specific ages in which they began engaging, most frequently engaged, and stopped engaging in each of the RT and SH behaviors. Due to the specificity of reporting, it may have been difficult for participants to accurately differentiate between the different age variables for the 29

specific RT and SH behaviors.

A fourth set of limitations came from the age criterion used for the study. The DSMART purports the most frequent age range to be within 12 to 15 years. The mean of this age range (13.5 years) was the criterion used for this study. It is unknown whether the criterion mean age of 13.5 was the most representative age to use as it is possible that the ages within the range of 12 to 15 years may be positively or negatively skewed. In the case of a skewed distribution, the mean is not the most representative descriptive statistic. For example, if the distribution of ages was negatively skewed, using the median response would increase the criterion age (i.e., closer to 15). The current data support an older age range than that of the DSMART.

In conclusion, the current study provides valuable information in the form of age differences in type of RT and SH behaviors. NSSI was found to be engaged in at lower ages as compared to all other RT and SH subgroups. Further, results support RT and SH as being related constructs.

Moving forward, it may be more accurate to determine ages of most frequent engagement in RT and SH behaviors through different methods of assessment. A stronger research design could be used, such as a longitudinal or cross-lagged study, where adolescents and adults at each age (i.e., between 10 to 30 years) report their engagement in RT and SH behaviors within the previous year. Utilizing a longitudinal or cross-lagged design would provide more limited spans of time for participants to recall detailed information which may result in better accuracy in reporting. In addition, utilizing an additional measure to assess SH would be wise as it has been noted that multiple assessment approaches should be used for evidence-based assessment of SH (Nock et al.,

2007). The nature and wording of multiple SH items may have left room for subjective interpretation (e.g., “Have you ever tried to make yourself suffer by *thinking horrible things* about yourself?”, “Have you ever *seriously thought* about killing yourself?). As a result, participants had to decide if and how the item applied based on their interpretation of the item. It would therefore be wise to include a follow-up interview or additional measure of SH to clarify responding.

Despite the aforementioned limitations, the present investigation furthered the understanding of the relationship between RT and SH behaviors and the ages when they are recalled to occur. Additional information was also gained on the ages in which high frequency engagement in RT and SH occurs. The results support the need for the examination of high frequency engagement by type of RT and SH behavior. Further, this study substantiates the need to identify variables that may inhibit or facilitate the frequency in engagement at different ages (e.g., lack of opportunity, resources, legal age restrictions). The fact that the NSSI SH and Situational RT subgroups evidenced the lowest mean age offers some guidance in future investigation. These results suggest future investigations of RT and SH should focus on subgroups and/or items as opposed to entire scales to receive the most detailed and helpful information.

APPENDIX A: Informed Consent, Survey, and Debriefing Statement

*Note: Survey items used in the current study are in boldface font.

SURVEY INFORMED CONSENT DOCUMENT

Project Title: Survey of Risk and Self-Harm Behaviors

Investigators: Brittany Dykstra, B.S., (906) 361-4470 and Elizabeth Jones, Ph.D.
Department of Psychology, (270) 745-4414

You are being asked to participate in a project conducted through Western Kentucky University investigating engagement in risky behaviors. ***Please read the following information carefully.*** It describes the purpose of the study, the procedure to be used, risks and benefits of your participation and what will happen to the information that is collected from you. If you agree to participate in this project, the University requires that you give your signed agreement to participate in this project by clicking on the "I Agree" button below.

If you have any questions about the purpose of the project, the procedures to be used, and the potential benefits or possible risks of participation please contact the investigators through the email addresses indicated below. You may ask him/her any questions you have to help you understand the project. A basic explanation of the project is written below. Please read this explanation and discuss with the researcher any questions you may have.

If you then decide to participate in the project, please click the "I Agree" at the bottom of this text.

1. **Nature and Purpose of the Project:** The purpose of this survey is to gain information about your participation in current and past risk taking and self-harm behavior(s).

2. **Explanation of Procedures:** Upon your consent, you will be asked to complete a survey that can be accessed by clicking the "I Agree" button below. You will be asked questions regarding your demographic information, your participation in a number of different behaviors that young people sometimes do, and the age in which you participate(d) in these behaviors.

3. **Discomfort and Risks:** There are no known risks associated with participation. However, you need to be advised that there are questions about risk taking and self-harm behaviors that some find disturbing. You may discontinue if you experience discomfort.

4. **Benefits:** Upon completion of the survey, you will receive research participation credit and/or extra credit for your psychology course. The results of this survey will

provide better information regarding participation in risk and self-harming behaviors. The results may advance our understanding of the relationship between risk and self-harm behaviors and the ages in which they occur.

5. **Confidentiality:** All responses to this survey will be kept in a database that is blind to your name and any email or Internet information.

6. **Refusal/Withdrawal:** Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty. If you personally engage in self-injurious behavior, you will suffer no repercussions for not participating.

7. **Questions:** If you have any questions regarding the survey or results, please contact Brittany Dykstra at brittany.dykstra385@topper.wku.edu or Elizabeth Jones at elizabeth.jones@wku.edu, Department of Psychology, Western Kentucky University. You may also contact the Human Protections Administrator for WKU, Paul Mooney at (270) 745-6733.

Thank you in advance for your participation and support by taking the time to fill out the following information.

Please read the following statements carefully and click the "I Understand" and "I Agree" buttons that follow to acknowledge that you have read and understood the following considerations and agreements.

Because of subject matter, I realize the some questions may be uncomfortable or disturbing, and that I may withdraw without penalty at any time if such occurs.

O I Understand

I acknowledge that responding to items concerning self-harm behavior may cause discomfort.

O I Understand O I Decline

You understand also that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

O I Agree O I Decline

THE DATED APPROVAL ON THIS CONSENT FORM INDICATES THAT THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY THE WESTERN KENTUCKY UNIVERSITY HUMAN SUBJECTS REVIEW BOARD
June 28, 2012
Paul Mooney, Human Protections Administrator
TELEPHONE: (270) 745-6733

If you feel the need for assistance, please visit www.selfinjury.com <http://www.selfinjury.com/> or call 800-DONTCUT (800-366-9066.
For local assistance with self-harm, you may contact WKU Counseling and Testing Center by calling 270-745-3159.

1. **In accordance with WKU's policies, you must be 18 years of age or older to participate in this survey. Please select the option below that applies to you.**
    a. **Yes, I am 18 years of age or older and am therefore able to participate in this survey if I so choose.**
    b. **No, I am not 18 years of age or older, and therefore understand that I am not able to participate in this survey at this time.**

2. **You understand that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.**
    a. **I agree/I understand**
    b. **I decline**

3. **Age:**
    a. **15**
    b. **16**
    c. **17**
    d. **18**
    e. **19**
    f. **20**
    g. **21**
    h. **22**
    i. **23**
    j. **24**
    k. **25**
    l. **26**
    m. **27**
    n. **28**
    o. **29**
    p. **30**
    q. **31**
    r. **32**

s. **33**
t. **34**
u. **35**
v. **Other (please specify):**

4. **What is your race/ethnicity?**
    a. **African American**
    b. **Asian**
    c. **Caucasian**
    d. **Hispanic**
    e. **Native American**
    f. **Other:_____**

5. **Please indicate your gender:**
    a. **Male**
    b. **Female**

6. **Indicate your current education level:**
    a. **College Freshman (less than 25 completed course hours)**
    b. **College Sophomore (25-54 completed course hours)**
    c. **College Junior (55-88 completed course hours)**
    d. **College Senior (89 or more completed course hours)**
    e. **Graduate Student (currently enrolled in a graduate program)**
    f. **Other (please specify):**

7. **Indicate your sexual orientation:**
    a. **Gay**
    b. **Lesbian**
    c. **Heterosexual**
    d. **Bisexual**
    e. **Questioning (A fixed sexual orientation is as of yet not clear or defined.)**

The following questions ask about a number of different things that young people sometimes do. Please do not be concerned if some statements seem unusual. They are included to provide us with greater understanding and knowledge about these behaviors and the best way to help young people.

- **Please complete the questionnaire on your own.**
- **If a statement is not applicable to you, please circle *Never.***
- **Please try to answer as truthfully as possible.**
- **All your answers are kept strictly confidential.**

1. **Have you ever taken chances while doing your recreational activities (e.g., not wearing your helmet and other safety gear, riding risky stances on your skateboard)?**
   Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:

#1 At what age did you first taken chances while doing your hobbies (e.g., not wearing your helmet and other safety gear, riding risky stances on your skateboard)?

#2 At what age(s) did you most frequently take chances while doing your hobbies (e.g., not wearing your helmet and other safety gear, riding risky stances on your skateboard)?

#3 At what age did you stop taking chances while doing your hobbies (e.g., not wearing your helmet and other safety gear, riding risky stances on your skateboard)?

a. ***OR I still engage in this behavior. [Conditional Question below]:***

#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

2. Have any of your friends ever taken chances while doing their recreational activities (e.g., not wearing their helmet and other safety gear, riding risky stances on their skateboard)?

b. None of my friends
c. A few of my friends
d. Half of my friends
e. Nearly all of my friends

2. How dangerous is it to take chances while doing your recreational activities (e.g., not wearing your helmet and other safety gear, riding risky stances on your skateboard)?

a. Not at all dangerous
b. Somewhat
c. Dangerous
d. Very dangerous

3. How beneficial is it to take chances while doing your recreational activities (e.g., not wearing your helmet and other safety gear, riding risky stances on your skateboard)?

a. Not at all beneficial
b. Somewhat
c. Beneficial
d. Very beneficial

4. How likely is it that you would get into trouble if you took chances while doing your recreational activities (e.g., not wearing your helmet and other safety gear, riding risky stances on your skateboard)?

a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

5. **Have you ever deliberately crossed the road dangerously or driven recklessly (e.g., raced, did not fasten your seatbelt, drove while intoxicated or drunk)?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:

#1 At what age did you first

#2 At what age(s) did you most frequently

#3 At what age did you stop

a. OR I still engage in this behavior. [Conditional Question below]:

#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

6. Have any of your friends ever deliberately crossed the road dangerously or driven recklessly (e.g., raced, did not fasten their seatbelt, drove while intoxicated or drunk)?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

7. How dangerous is it to deliberately cross the road dangerously or drive recklessly (e.g., raced, did not fasten your seatbelt, drove while intoxicated or drunk)?
    a. Not at all dangerous
    b. Somewhat
    c. Dangerous
    d. Very dangerous

8. How beneficial is it to take chances while doing your hobbies (e.g., not wearing your helmet and other safety gear, riding risky stances on your skateboard)?
    a. Not at all beneficial
    b. Somewhat
    c. Beneficial
    d. Very beneficial

9. How likely is it that you would get into trouble if you take chances while doing your hobbies (e.g., not wearing your helmet and other safety gear, riding risky stances on your skateboard)?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

10. **Have you ever put yourself in a risky situation (such as classroom cheating, traveling without a valid ticket, shoplifting, etc.) knowing that you may get caught?**

    Never Once More than once Many times

    (Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
    #1 At what age did you first
    #2 At what age(s) did you most frequently
    #3 At what age did you stop
        a. OR I still engage in this behavior. [Conditional Q below]:
    #4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

11. Have any of your friends ever put themselves in a risky situation (such as classroom cheating, traveling without a valid ticket, shoplifting, etc.) knowing that they may get caught?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

12. How dangerous is it to put yourself in a risky situation (such as classroom cheating, traveling without a valid ticket, shoplifting, etc.) knowing that you may get caught?
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous

d. Very Dangerous

13. How beneficial is it to put yourself in a risky situation (such as classroom cheating, traveling without a valid ticket, shoplifting, etc.) knowing that you may get caught?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

14. How likely is it that you would get into trouble if put yourself in a risky situation (such as classroom cheating, traveling without a valid ticket, shoplifting, etc.) knowing that you may get caught?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

15. **Have you ever been suspended (e.g., punished with exclusion) or dropped out of school?**

    Never **Once** **More than once** **Many times**

    (Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
    #1 At what age did you first
    #2 At what age(s) did you most frequently
    #3 At what age did you stop

16. Have any of your friends been suspended (e.g., punished with exclusion) or dropped out of school?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

17. How dangerous is it to be suspended (e.g., punished with exclusion) or drop out of school
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous
    d. Very Dangerous

18. How beneficial is it to be suspended (e.g., punished with exclusion) or drop out of school
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

19. How likely is it that you would get into trouble if suspended (e.g., punished with exclusion) or dropped out of school
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

20. **Have you ever stayed out late at night, without your parents knowing where you are?**

    Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop

21. Have any of your friends ever put stayed out late at night, without their parents knowing where they are?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

22. How dangerous is it to stay out late at night, without your parents knowing where you are?
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous
    d. Very Dangerous

23. How beneficial is it to stay out late at night, without your parents knowing where you are?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

24. How likely is it that you would get into trouble if you stayed out late at night, without your parents knowing where you are?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

25. **Have you ever participated in gang violence or physical fights or carried a weapon?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Q below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

26. Have any of your friends ever participated in gang violence or physical fights or carried a weapon?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

27. How dangerous is it to participate in gang violence or physical fights or carried a weapon?
    a. Not at all dangerous

b. Somewhat dangerous
c. Dangerous
d. Very Dangerous

28. How beneficial is it to participate in gang violence or physical fights or carried a weapon?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

29. How likely is it that you would get into trouble if you participated in gang violence or physical fights or carried a weapon?
    a. Not all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

30. **Have you ever been promiscuous (e.g., had many sexual partners within a short period of time)?**

    Never Once More than once Many times

    (Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
    #1 At what age did you first
    #2 At what age(s) did you most frequently
    #3 At what age did you stop
        a. OR I still engage in this behavior. [Conditional Question below]:
    #4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

31. Have any of your friends ever been promiscuous (e.g. have many sexual partners within a short period of time)?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

32. How dangerous is it to be promiscuous (e.g., have many sexual partners within a short period of time)?
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous
    d. Very Dangerous

33. How beneficial is it to be promiscuous (e.g., have many sexual partners within a short period of time)?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very Beneficial

34. How likely is it that you would get into trouble if were promiscuous (e.g., had many sexual partners within a short period of time)?
    a. Not at all likely
    b. Somewhat likely
    c. Likely

d. Very likely

35. **Have you ever had sex avoiding precautions against sexually transmitted diseases or pregnancy?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

36. Have any of your friends ever had sex avoiding precautions against sexually transmitted diseases or pregnancy?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

37. How dangerous is it to have sex avoiding precautions against sexually transmitted diseases or pregnancy?
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous
    d. Very Dangerous

38. How beneficial is it to have sex avoiding precautions against sexually transmitted diseases or pregnancy?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

39. How likely is it that you would get into trouble if you had sex avoiding precautions against sexually transmitted diseases or pregnancy?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

40. **Have you ever had so much alcohol that you were really drunk?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less

than I have in the past.

41. Have any of your friends ever had so much alcohol that they were really drunk?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

42. How dangerous is it to have so much alcohol that you were really drunk?
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous
    d. Very dangerous

43. How beneficial is it to have so much alcohol that you were really drunk?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

44. How likely is it that you would get into trouble if had so much alcohol that you were really drunk?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

45. **Have you ever used drugs (such as marijuana, cocaine, LSD, etc.)?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

46. Have any of your friends ever used drugs (such as marijuana, cocaine, LSD, etc.)?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

47. How dangerous is it to use drugs (such as marijuana, cocaine, LSD, etc.)?
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous
    d. Very dangerous

48. How beneficial is it to use drugs (such as marijuana, cocaine, LSD, etc.)?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial

d. Very beneficial

49. How likely is it that you would get into trouble if you used drugs (such as marijuana, cocaine, LSD, etc.)?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

50. **Have you ever smoked or chewed tobacco?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

51. Have any of your friends ever smoked or chewed tobacco?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

52. How dangerous is it to smoke or chew tobacco?
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous
    d. Very dangerous

53. How beneficial is it to smoke or chew tobacco?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

54. How likely is it that you would get into trouble if you smoke or chew tobacco?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

Please say yes to the following questions only if you did the behaviors below intentionally, or on purpose, to hurt yourself. Circle *Never if you did something only accidentally (e.g., you tripped and banged your head on accident).*

55. **Have you ever intentionally cut your skin?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

56. Have any of your friends ever intentionally cut their skin?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

57. How dangerous is it to intentionally cut your skin?
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous
    d. Very Dangerous

58. How beneficial is it to intentionally cut your skin?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

59. How likely is it that you would get into trouble if you intentionally cut your skin?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

60. **Have you ever intentionally burned yourself with a hot object (such as a cigarette)?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

61. Have any of your friends ever burned themselves with a hot object (such as a cigarette)?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

62. How dangerous is it to intentionally burn yourself with a hot object (such as a cigarette)?
    a. Not at all dangerous

b. Somewhat dangerous
c. Dangerous
d. Very Dangerous

63. How beneficial is it to intentionally burn yourself with a hot object (such as a cigarette)?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

64. How likely is it that you would get into trouble if you intentionally burned yourself with a hot object (such as a cigarette)?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

65. **Have you ever intentionally bitten yourself, to the extent that you broke the skin?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

66. Have any of your friends ever intentionally bitten themselves, to the extent that they broke the skin?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

67. How dangerous is it to intentionally bite yourself, to the extent that you broke the skin?
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous
    d. Very Dangerous

68. How beneficial is it to intentionally bite yourself, to the extent that you broke the skin?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

69. How likely is it that you would get into trouble if you intentionally bite yourself, to the extent that you broke the skin?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

70. **Have you ever intentionally banged your head against something or hit or punched yourself, to the extent that you caused a bruise to appear?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

71. Have any of your friends ever intentionally banged their head against something or hit or punched themselves, to the extent that they caused a bruise to appear?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

72. How dangerous is it to intentionally bang your head against something or hit or punch yourself, to the extent that you caused a bruise to appear?
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous
    d. Very dangerous

73. How beneficial is it to intentionally bang your head against something or hit or punch yourself, to the extent that you caused a bruise to appear?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

74. How likely is it that you would get into trouble if intentionally bang your head against something or hit or punch yourself, to the extent that you caused a bruise to appear?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

75. **Have you ever intentionally prevented wounds from healing or picked at areas of your body to the point of drawing blood?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less

than I have in the past.

76. Have any of your friends ever intentionally prevented wounds from healing or picked at areas of their body to the point of drawing blood?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

77. How dangerous is it to intentionally prevented wounds from healing or picked at areas of your body to the point of drawing blood?
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous
    d. Very Dangerous

78. How beneficial is it to intentionally prevent wounds from healing or pick at areas of your body to the point of drawing blood?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

79. How likely is it that you would get into trouble if you intentionally prevented wounds from healing or picked at areas of your body to the point of drawing blood?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

80. **Have you ever intentionally scraped, scrubbed, or scratched your skin to the point of breaking your skin or drawing blood?**

    Never **Once** **More than once** **Many times**

    (Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
    #1 At what age did you first
    #2 At what age(s) did you most frequently
    #3 At what age did you stop
        a. OR I still engage in this behavior. [Conditional Question below]:
    #4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

81. Have any of your friends ever intentionally scraped, scrubbed, or scratched their skin to the point of breaking their skin or drawing blood?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

82. How dangerous is it to intentionally scrape, scrub, or scratch your skin to the point of breaking your skin or drawing blood?
    a. Not at all dangerous

b. Somewhat dangerous
c. Dangerous
d. Very Dangerous

83. How beneficial is it to intentionally scrape, scrub, or scratch your skin to the point of breaking your skin or drawing blood?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

84. How likely is it that you would get into trouble if you intentionally scrape, scrub, or scratch your skin to the point of breaking your skin or drawing blood?
    a. Not at all likely
    b. Somewhat likely
    c. Likely
    d. Very likely

85. **Have you ever intentionally rubbed a sharp object (such as sandpaper) or dripped anything toxic (such as acid) onto your skin?**

    Never Once More than once Many times

    (Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
    #1 At what age did you first
    #2 At what age(s) did you most frequently
    #3 At what age did you stop
        a. OR I still engage in this behavior. [Conditional Question below]:
    #4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

86. Have any of your friends ever intentionally rubbed a sharp object (such as sandpaper) or dripped anything toxic (such as acid) onto their skin?
    a. None of my friends
    b. A few of my friends
    c. Half of my friends
    d. Nearly all of my friends

87. How dangerous is it to intentionally rub a sharp object (such as sandpaper) or drip anything toxic (such as acid) onto your skin?
    a. Not at all dangerous
    b. Somewhat dangerous
    c. Dangerous
    d. Very Dangerous

88. How beneficial is it to intentionally rub a sharp object (such as sandpaper) or drip anything toxic (such as acid) onto your skin?
    a. Not at all beneficial
    b. Somewhat beneficial
    c. Beneficial
    d. Very beneficial

89. How likely is it that you would get into trouble if you intentionally rubbed a sharp object (such as

sandpaper) or dripped anything toxic (such as acid) onto your skin?

a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

90. **Have you ever exercised an injured part of your body intending to hurt yourself?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

91. Have any of your friends ever exercised an injured party of their body intending to hurt themselves?

a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

92. How dangerous is it to exercise an injured part of your body intending to hurt yourself?

a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very Dangerous

93. How beneficial is it to exercise an injured part of your body intending to hurt yourself?

a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

94. How likely is it that you would get into trouble if you exercised an injured part of your body intending to hurt yourself?

a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

95. Please choose A or B.

A. I've never deliberately injured myself.
B. I have at least once deliberately injured myself.

Have you ever done any of the following with the intention of hurting yourself? (mark all that apply)

___Scratched or pinched yourself to the point that bleeding occurs or marks remain on the skin
___Broke a bone intentionally
___Intentionally prevented wounds from healing by picking them
___Cut or carved the body

___Pulled out hair
___Burned an area of your body intentionally
___Dripped acid on your skin
___Stuck sharp objects into your skin
___Punched or banged a part of your body against an object deliberately
___Bruised your body
___Damaged your skin by rubbing against a rough surface
___Ingested caustic substance(s) or sharp object(s)
___Exercised an injury on purpose
___Hit yourself on purpose
___Other: _____

96. **Have you ever intentionally pulled your hair out?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

97. Have any of your friends ever intentionally pulled their hair out?
a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

98. How dangerous is it to intentionally pull your hair out?
a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very Dangerous

99. How beneficial is it to intentionally pull your hair out?
a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

100. How likely is it that you would get into trouble if you intentionally pulled your hair out?
a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

101. **Have you ever starved yourself to hurt or punish yourself?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

102. Have any of your friends ever starved themselves to hurt or punish themselves?
   a. None of my friends
   b. A few of my friends
   c. Half of my friends
   d. Nearly all of my friends

103. How dangerous is it to intentionally pull your hair out?
   a. Not at all dangerous
   b. Somewhat dangerous
   c. Dangerous
   d. Very dangerous

104. How beneficial is it to intentionally pull your hair out?
   a. Not at all beneficial
   b. Somewhat beneficial
   c. Beneficial
   d. Very beneficial

105. How likely is it that you would get into trouble if you intentionally pull your hair out?
   a. Not at all likely
   b. Somewhat likely
   c. Likely
   d. Very likely

106. **Have you ever forced yourself to eat too much to hurt or punish yourself?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

107. Have any of your friends ever forced themselves to eat too much to hurt or punish themselves?
   a. None of my friends
   b. A few of my friends
   c. Half of my friends
   d. Nearly all of my friends

108. How dangerous is it to force yourself to eat too much to hurt or punish yourself?
   a. Not at all dangerous

b. Somewhat dangerous
c. Dangerous
d. Very dangerous

109. How beneficial is it to force yourself to eat too much to hurt or punish yourself?
a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

110. How likely is it that you would get into trouble if forced yourself to eat too much to hurt or punish yourself?
a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

111. **Have you ever stayed in a friendship or a relationship with somebody who repeatedly hurt your feelings on purpose?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

112. Have any of your friends ever stayed in a friendship or relationship with somebody who repeatedly hurt their feelings on purpose?
a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

113. How dangerous is it to stay in a friendship or a relationship with somebody who repeatedly hurt your feelings on purpose?
a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very Dangerous

114. How beneficial is it to stay in a friendship or a relationship with somebody who repeatedly hurt your feelings on purpose?
a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

115. How likely is it that you would get into trouble if stayed in a friendship or a relationship with somebody who repeatedly hurt your feelings on purpose?

a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

116. **Have you ever tried to make yourself suffer by thinking horrible things about yourself?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

117. Have any of your friends ever tried to make themselves suffer by thinking horrible things about themself?
a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

118. How dangerous is it to make yourself suffer by thinking horrible things about yourself?
a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very dangerous

119. How beneficial is it to make yourself suffer by thinking horrible things about yourself?
a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

120. How likely is it that you would get into trouble if you make yourself suffer by thinking horrible things about yourself?
a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

121. **Have you ever intentionally tried to suffocate yourself? (cut off the oxygen supply, held breath, or hyperventilated until you passed out)**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop

a. OR I still engage in this behavior. [Conditional Question below]:

#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

122. Have any of your friends ever intentionally tried to suffocate themselves? (cut off the oxygen supply, held breath, or hyperventilated until they passed out)?

a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

123. How dangerous is it to intentionally try to suffocate yourself? (cut off the oxygen supply, hold your breath, or hyperventilated until you passed out)

a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very dangerous

124. How beneficial is it to intentionally try to suffocate yourself? (cut off the oxygen supply, hold your breath, or hyperventilated until you passed out)

a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

125. How likely is it that you would get into trouble if intentionally tried to suffocate yourself? (cut off the oxygen supply, hold your breath, or hyperventilated until you passed out)

a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

126. **Have you ever taken an overdose? (e.g., taken an excessive amount of medication without having been prescribed this dosage)**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:

#1 At what age did you first

#2 At what age(s) did you most frequently

#3 At what age did you stop

a. OR I still engage in this behavior. [Conditional Question below]:

#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

127. Have any of your friends ever taken an overdose? (e.g., taken an excessive amount of medication without having been prescribed this dosage)

a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

128. How dangerous is it to take an overdose? (e.g., take an excessive amount of medication without

having been prescribed this dosage)

e. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very Dangerous

129. How beneficial is it to take an overdose? (e.g., take an excessive amount of medication without having been prescribed this dosage)

a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

130. How likely is it that you would get into trouble if to take an overdose? (e.g., take an excessive amount of medication without having been prescribed this dosage)

a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

131. **Have you ever seriously thought about harming a part of your body?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

132. Have any of your friends ever seriously thought about harming part of their body?

a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

133. How dangerous is it to think about harming a part of your body?

a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very Dangerous

134. How beneficial is it to think about harming a part of your body?

a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial\

135. How likely is it that you would get into trouble if thought about harming a part of your body?

a. Not at all likely
b. Somewhat likely

c. Likely
d. Very likely

136. **Have you ever seriously thought about killing yourself?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age did you most frequently

137. Have any of your friends ever seriously thought about killing themselves?
a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

138. How dangerous is it to seriously think about killing yourself?
a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very dangerous

139. How beneficial is it to seriously think about killing yourself?
a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

140. How likely is it that you would get into trouble if you seriously thought about killing yourself?
a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

141. **Have you ever tried to kill yourself?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently

142. Have any of your friends ever tried to kill themselves?
a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

143. How dangerous is it to try to kill yourself?
a. Not at all dangerous
b. Somewhat dangerous

c. Dangerous
d. Very Dangerous

144. How beneficial is it to try to kill yourself?
a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

145. How likely is it that you would get into trouble if tried to kill yourself?
a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

146. **Have you ever intentionally hurt yourself in any of the above mentioned ways so that it led to hospitalization or injury severe enough to require medical treatment?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

147. Have any of your friends ever intentionally hurt yourself in any of the above mentioned ways so that it led to hospitalization or injury severe enough to require medical treatment?
a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

148. How dangerous is it to intentionally hurt yourself in any of the above mentioned ways so that it led to hospitalization or injury severe enough to require medical treatment?
a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very Dangerous

149. How beneficial is it to intentionally hurt yourself in any of the above mentioned ways so that it led to hospitalization or injury severe enough to require medical treatment?
a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

150. How likely is it that you would get into trouble if you intentionally hurt yourself in any of the above mentioned ways so that it led to hospitalization or injury severe enough to require medical treatment?
a. Not at all likely
b. Somewhat likely

c. Likely
d. Very likely

151. Have you engaged in any other behaviors you consider self-destructive that were not asked about in this questionnaire? If yes, please describe below.

_____

_____

152. **Have you ever used the Internet to search for someone to talk to about sex?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

153. Have any of your friends ever used the Internet to search for someone to talk to about sex?
a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

154. How dangerous is it to use the Internet to search for someone to talk to about sex?
a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very Dangerous

155. How beneficial is it to use the Internet to search for someone to talk to about sex?
a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

156. How likely is it that you would get into trouble if you used the Internet to search for someone to talk to about sex?
a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

157. **Have you ever posted online (e.g., Facebook, dating website, YouTube, other websites) revealing pictures or videos of yourself?**
Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first

#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

158. Have any of your friends ever posted online (e.g., Facebook, dating website, YouTube, other websites) revealing pictures or videos of yourself?
a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

159. How dangerous is it to post online (e.g., Facebook, dating website, YouTube, other websites) revealing pictures or videos of yourself?
a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very Dangerous

160. How beneficial is it to post online (e.g., Facebook, dating website, YouTube, other websites) revealing pictures or videos of yourself?
a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

161. How likely is it that you would get into trouble if you posted online (e.g., Facebook, dating website, YouTube, other websites) revealing pictures or videos of yourself?
a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

162. **Have you ever searched online for someone with whom to have sexual relations?**

Never **Once** **More than once** **Many times**

(Conditional Questions)
If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

163. Have any of your friends ever searched online for someone with whom to have sexual relations?
a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

164. How dangerous is it to search online for someone with whom to have sexual relations?

a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very Dangerous

165. How beneficial is it to search online for someone with whom to have sexual relations?
a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

166. How likely is it that you would get into trouble if you searched online for someone with whom to have sexual relations?
a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

167. **Have you ever participated in an online group that most people would consider to be legally, ethically or morally questionable (e.g., sites with explicit sexual content/pornography; sites supporting drug use/making drugs/drug paraphernalia; sites promoting harmful behaviors such as anorexia, suicide, bulimia, self-injury) (content risk/contact risk/privacy risk)**

Never **Once** **More than once** **Many times**

(Conditional Questions)
If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

168. Have any of your friends ever participated in an online group that most people would consider to be legally, ethically or morally questionable (e.g., sites with explicit sexual content/pornography; sites supporting drug use/making drugs/drug paraphernalia; sites promoting harmful behaviors such as anorexia, suicide, bulimia, self-injury) (content risk/contact risk/privacy risk)
a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

169. How dangerous is it to participate in an online group that most people would consider to be legally, ethically or morally questionable (e.g., sites with explicit sexual content/pornography; sites supporting drug use/making drugs/drug paraphernalia; sites promoting harmful behaviors such as anorexia, suicide, bulimia, self-injury)
a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very dangerous

170. How beneficial is it to participate in an online group that most people would consider to be legally, ethically or morally questionable?

a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

171. How likely is it that you would get into trouble if you participate in an online group that most people would consider to be legally, ethically or morally questionable?
a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

172. **Have you ever disclosed revealing information (phone number, address, etc.) about yourself to someone you only know from online interactions (you have never met in person)?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

173. Have any of your friends ever disclosed revealing information (phone number, address, etc.) about themselves to someone they only know from online interactions (they have never met in person)?
a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

174. How dangerous is it to disclose revealing information (phone number, address, etc.) about yourself to someone you only know from online interactions (you have never met in person)?
a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very dangerous

175. How beneficial is it to disclose revealing information (phone number, address, etc.) about yourself to someone you only know from online interactions (you have never met in person)?
a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

176. How likely is it that you would get into trouble if you disclose revealing information (phone number, address, etc.) about yourself to someone you only know from online interactions (you have never met in person)?
a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

177. **Have you ever used the Internet for illegal purposes (e.g., downloading that violates copyright, avoids required contract or payment, gambling, etc.)?**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less than I have in the past.

178. Have any of your friends ever used the Internet for illegal purposes (e.g., downloading that violates copyright, avoids required contract or payment, gambling, etc.)?
a. None of my friends
b. A few of my friends
c. Half of my friends
d. Nearly all of my friends

179. How dangerous is it to use the Internet for illegal purposes (e.g., downloading that to violates copyright, avoids required contract or payment, gambling, etc.)
a. Not at all dangerous
b. Somewhat dangerous
c. Dangerous
d. Very dangerous

180. How beneficial is it to use the Internet for illegal purposes (e.g., downloading that to violates copyright, avoids required contract or payment, gambling, etc.)
a. Not at all beneficial
b. Somewhat beneficial
c. Beneficial
d. Very beneficial

181. How likely is it that you would get into trouble if used the Internet for illegal purposes (e.g., downloading that to violates copyright, avoids required contract or payment, gambling, etc.)
a. Not at all likely
b. Somewhat likely
c. Likely
d. Very likely

182. **Have you ever talked with someone you don't know on a video call? (e.g., chat roulette, Skype, OoVoo)**

Never **Once** **More than once** **Many times**

(Conditional Questions) If answers Once, More than once or Many times they will see the following set of questions:
#1 At what age did you first
#2 At what age(s) did you most frequently
#3 At what age did you stop
a. OR I still engage in this behavior. [Conditional Question below]:
#4 Indicate rate of engagement: More than I have in the past; Same as I have in the past; Less

than I have in the past.

183. Have any of your friends ever talked with someone they don't know on a video call? (e.g., chat roulette, Skype, OoVoo)
   a. None of my friends
   b. A few of my friends
   c. Half of my friends
   d. Nearly all of my friends

184. How dangerous is it to talk with someone you don't know on a video call? (e.g., chat roulette, Skype, OoVoo)?
   a. Not at all dangerous
   b. Somewhat dangerous
   c. Dangerous
   d. Very dangerous

185. How beneficial is it to talk with someone you don't know on a video call? (e.g., chat roulette, Skype, OoVoo)
   a. Not at all beneficial
   b. Somewhat beneficial
   c. Beneficial
   d. Very beneficial

186. How likely is it that you would get into trouble if you talk with someone you don't know on a video call? (e.g., chat roulette, Skype, OoVoo)
   a. Not at all likely
   b. Somewhat likely
   c. Likely
   d. Very likely

WARNING! YOU ARE NOT FINISHED! IN ORDER TO RECEIVE CREDIT FOR YOUR PARTICIPATION, YOU MUST COPY AND PASTE THE URL BELOW INTO YOUR BROWSER OR RIGHT CLICK THE URL AND OPEN THE LINK. THEN, FILL OUT THE INFORMATION AND HIT SUBMIT. YOU WILL NOT RECEIVE CREDIT FOR PARTICIPATION UNLESS YOU COMPLETE THIS LAST STEP!

http://brittanydykstra.wufoo.com/forms/z7x3x5/

(Wufoo Form)

Identifying Information

Please fill out the following information AND HIT SUBMIT to receive course credit for your participation. Thank you.

Name:

First: **Last:**

WKU ID:

Class:

Professor:

Debriefing Statement for Survey Participants

Thank you for participating in this online study. This study was designed to gain information on risk taking and self-harm behaviors including online risk behaviors. Specifically, this study examines the relationship between risk and self-harm behaviors, the ages at which the behaviors are most frequently engaged, and perceptions of danger, benefits, and the likelihood of engaging in these behaviors. If you feel the need for assistance, please visit www.selfinjury.com or call 800-DONTCUT (800-366-9066). If you would like a final copy of the research project, please contact Dr. Elizabeth Jones at (270) 745-4414, or the Department of Psychology, at Western Kentucky University, Bowling Green, KY 42101. The final copies will not be available until after May, 2013.

PLEASE HIT SUBMIT BELOW TO COMPLETE THE SURVEY. Thank you for your participation.

If you have any comments you would like to share, please feel free to enter them below:

APPENDIX B: Risk Taking (RT) and Self-Harm (SH) Item Abbreviations and Items

RT Scale (12 items) by Subgroup

I. **Situational (6 items)**
   a. **Took Recreational Risk** *"Have you ever taken chances while doing your recreational activities (e.g., not wearing your helmet and other safety gear, riding risky stances on your skateboard)?*
   b. **Drove Recklessly** *Have you ever deliberately crossed the road dangerously or driven recklessly (e.g., raced, did not fasten your seatbelt, drove while intoxicated or drunk)?*
   c. **Took Risk/Likely Caught** *Have you ever put yourself in a risky situation (such as classroom cheating, traveling without a valid ticket, shoplifting, etc.) knowing that you may get caught?*
   d. **Suspended from School** *Have you ever been suspended (e.g., punished with exclusion) or dropped out of school?*
   e. **Stayed Out Late** Have *you ever stayed out late at night, without your parents knowing where you are?*
   f. **Fought/Carried Weapon** Have *you ever participated in gang violence or physical fights or carried a weapon?*

II. **Sexual (2 items)**
   a. **Been Promiscuous** *Have you ever been promiscuous (e.g., had many sexual partners within a short period of time)?*
   b. **Avoided Sex Precautions** *Have you ever had sex avoiding precautions against sexually transmitted diseases or pregnancy?*

III. **Physical (4 items)**
   a. **Intoxicated** *Have you ever had so much alcohol that you were really drunk?*
   b. **Used Drugs** *Have you ever used drugs (such as marijuana, cocaine, LSD, etc.)?*
   c. **Smoked/Chewed Tobacco** *Have you ever smoked or chewed tobacco?*
   d. **Suffocated/Choked** *Have you ever intentionally tried to suffocate yourself? (cut off the oxygen supply, held breath, or hyperventilated until you passed out)*

SH Scale (18 items) by Subgroup

IV. Non-suicidal Self Injury (NSSI; 7 items)

a. **Cut** *Have you ever intentionally cut your skin?*
b. **Burned** *Have you ever intentionally burned yourself with a hot object (such as a cigarette)?*
c. **Bitten/Broke Skin** *Have you ever intentionally bitten yourself, to the extent that you broke the skin?*
d. **Banged Head/Hit** *Have you ever intentionally banged your head against something or hit or punched yourself, to the extent that you caused a bruise to appear?*
e. **Picked/Prevented Healing** *Have you ever intentionally prevented wounds from healing or picked at areas of your body to the point of drawing blood?*
f. **Scratched/Scraped** *Have you ever intentionally scraped, scrubbed, or scratched your skin to the point of breaking your skin or drawing blood?*
g. **Rubbed/Applied Toxic** *Have you ever intentionally rubbed a sharp object (such as sandpaper) or dripped anything toxic (such as acid) onto your skin?*

V. General (9 items)

a. **Exercised an Injury** *Have you ever exercised an injured part of your body intending to hurt yourself?*
b. **Pulled Hair** *Have you ever intentionally pulled your hair out?*
c. **Starved to Punish** *Have you ever starved yourself to hurt or punish yourself?*
d. **Overate to Punish** *Have you ever forced yourself to eat too much to hurt or punish yourself?*
e. **Stayed in Abusive Relationship** *Have you ever stayed in a friendship or a relationship with somebody who repeatedly hurt your feelings on purpose?*
f. **Bad Thoughts About Self** *Have you ever tried to make yourself suffer by thinking horrible things about yourself?*
g. **Overdosed** *Have you ever taken an overdose? (e.g., taken an excessive amount of medication without having been prescribed this dosage)*
h. **Thought Body Harm** *Have you ever seriously thought about harming a part of your body?*
i. **Hospitalized** *Have you ever intentionally hurt yourself in any of the above mentioned ways so that it led to hospitalization or injury severe enough to require medical treatment?*

VI. <u>Suicide (2 items)</u>

a. **Thought Suicide** *Have you ever seriously thought about killing yourself?*

b. **Attempted Suicide** *Have you ever tried to kill yourself?*

APPENDIX C: Institutional Review Board Approval

A LEADING AMERICAN UNIVERSITY WITH INTERNATIONAL REACH

OFFICE OF COMPLIANCE

DATE:	April 16, 2012
TO:	Brittany Dykstra, B.S.
FROM:	Western Kentucky University (WKU) IRB
PROJECT TITLE:	[317611-2] Survey of Risk and Self-Harm Behaviors
REFERENCE #:	IRB12-271
SUBMISSION TYPE:	New Application
ACTION:	APPROVED
APPROVAL DATE:	April 16, 2012
EXPIRATION DATE:	April 16, 2013
REVIEW TYPE:	Expedited Review

Thank you for your submission of Revision materials for this project. The Western Kentucky University (WKU) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by an *implied* consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of April 16, 2013.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Paul Mooney at (270) 745-2129 or paul.mooney@wku.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Western Kentucky University (WKU) IRB's records.

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